

1 STATE OF MINNESOTA DISTRICT COURT

2 COUNTY OF RAMSEY SECOND JUDICIAL DISTRICT

3 - - - - -

4 The State of Minnesota,

5 by Hubert H. Humphrey, III,

6 its attorney general,

7 and

8 Blue Cross and Blue Shield

9 of Minnesota,

10 Plaintiffs,

11 vs. File No. C1-94-8565

12 Philip Morris Incorporated, R.J.

13 Reynolds Tobacco Company, Brown

14 & Williamson Tobacco Corporation,

15 B.A.T. Industries P.L.C., Lorillard

16 Tobacco Company, The American

17 Tobacco Company, Liggett Group, Inc.,

18 The Council for Tobacco Research-U.S.A.,

19 Inc., and The Tobacco Institute, Inc.,

20 Defendants.

21 - - - - -

22 DEPOSITION OF SCOTT APPLETON

23 Volume II, Pages 296 - 593

24

25

STIREWALT & ASSOCIATES

P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 (The following is the continuation of the
2 Deposition of SCOTT APPLETON, taken pursuant to
3 Notice of Taking Deposition, by videotape, at the
4 offices of Dorsey & Whitney, Attorneys at Law,
5 Pillsbury Center South, 220 South Sixth Street,
6 Minneapolis, Minnesota, on September 23, 1997,
7 commencing at approximately 8:32 o'clock a.m.)

8

9 APPEARANCES:

10 On Behalf of the Plaintiffs:

11 Martha K. Wivell

12 Robins, Kaplan, Miller & Ciresi LLP

13 Attorneys at Law

14 2800 LaSalle Plaza

15 800 LaSalle Avenue

16 Minneapolis, Minnesota 55402

17

18 On Behalf of the Cross-Noticed Philadelphia
19 Plaintiffs:

20 James P. Watts

21 Zimmerman Reed

22 5200 Norwest Tower

23 90 South Seventh Street

24 Minneapolis, Minnesota 55402-4123

25

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 On Behalf of Brown & Williamson Tobacco
2 Corporation:

3 Andrew R. McGaan
4 Kirkland & Ellis
5 200 E. Randolph Dr.
6 Chicago, Illinois 60601

7
8 Jack M. Fribley
9 Faegre & Benson
10 Attorneys at Law
11 2200 Norwest Center
12 90 South 7th Street
13 Minneapolis, Minnesota 55402

14
15 On Behalf of B.A.T. Industries P.L.C.:

16 Alexis S. Coll
17 Simpson, Thacher & Bartlett
18 Attorneys at Law
19 425 Lexington Avenue
20 New York, New York 10017

21
22
23
24
25

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 On Behalf of Lorillard Tobacco Company:

2 David S. Miller

3 Doherty, Rumble & Butler

4 Attorneys at Law

5 2800 Minnesota World Trade Center

6 30 East Seventh Street

7 St. Paul, Minnesota 55101-4999

8

9

10 EXAMINATION INDEX

11 WITNESS	EXAMINED BY	PAGE
12 Scott Appleton	Ms. Wivell	301

13

14

15

16

17

18

19

20

21

22

23

24

25

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1	EXHIBIT INDEX		
2	EXHIBIT	DESCRIPTION	PAGE
3	(Plaintiffs')		
4	4403	1979 Surgeon General report,	310
5		Smoking & Health	
6	4404	Control of Gross Smoke Deliveries:	330
7		B&W Perspective, 40235723-531	
8	4405	The Burning Cigarette, 100575013-029	373
9	4406	What Are We Talking About?	435
10		107356063-074	
11	4407	Handwritten notes, 109873991-74000	479
12	4408	Project RIO: Status and Discussion	482
13		Note: July 1983, 512107590-91	
14	4409	Ames Mutagenic Activity of Mainstream	493
15		Condensate of Four Commercial	
16		Cigarettes, 105490841-875	
17	4410	Biological and Sidestream properties	499
18		of Low Circumference Cigarettes,	
19		401042556-566	
20			
21			
22			
23			
24			
25			

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 P R O C E E D I N G S

2 (Witness previously sworn.)

3 SCOTT APPLETON,

4 called as a witness, being previously

5 sworn, was examined and testified as

6 follows:

7 ADVERSE EXAMINATION (cont'd)

8 BY MS. WIVELL:

9 Q. Good morning, sir.

10 A. Good morning.

11 Q. You understand you're still under oath?

12 A. Yes.

13 Q. All right.

14 MS. WIVELL: I would like to make a

15 statement for the record first of all, to begin.

16 Yesterday there was some discussion about Dr.

17 Appleton's deposition in a case taken while he was at

18 RJR, and I was told during the deposition that it was

19 in a certain box in the depository and so I asked my

20 office to obtain what was in that box, and we

21 obtained it, and I read it last night. And I would

22 just like the record to reflect that it -- what we

23 obtained, what we were able to get was only the

24 second day of the deposition, not the entire

25 deposition, and I have read what was there and it

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 clearly is just the second day.

2 BY MS. WIVELL:

3 Q. Dr. Appleton, you have day one; right?

4 A. I'm not sure what day it is. I think it's day
5 one, but I don't really know. I'd have to go back
6 and check it.

7 Q. But to the best of your recollection, it's the
8 first day of that two-day deposition that you have in
9 your possession?

10 MR. McGAAN: Object, the witness testified
11 he doesn't remember which one, but I'd be happy to
12 confirm it for counsel at another time.

13 A. I believe it is, but I'd need to go back and
14 verify it.

15 MS. WIVELL: Again I request that we
16 receive a copy of that deposition, that portion of
17 the deposition, and we will continue to assert our
18 objection to this witness' testimony unless and until
19 we have that deposition and are able to depose him
20 about facts and statements he may have said in that
21 deposition.

22 MR. FRIBLEY: Marty, did you inquire of
23 Reynolds counsel? They told me the deposition was in
24 there. I mean, did you ask them where volume one
25 was?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 MS. WIVELL: Basically I got back to the
2 office quite late last night and was told we had
3 obtained what was there, and then I actually went
4 home to try and -- because it was quite late, try and
5 get some dinner, so I did not -- wasn't able to get
6 ahold of them and I didn't attempt to get ahold of
7 them because I wanted to see what was there. And lo
8 and behold to my surprise last night late, I
9 discovered it was day two and not day one, so I'm
10 doing the best I can here. All right.

11 MR. McGAAN: Well let me raise one other
12 thing. Is it -- So we're real clear about these
13 statements you're making on the record, is it the
14 plaintiffs' position that Brown & Williamson or this
15 witness should disclose a transcript that --

16 MS. WIVELL: Well --

17 MR. McGAAN: Let me finish.

18 MS. WIVELL: I'm sorry.

19 MR. McGAAN: -- that RJR's counsel has told
20 us a federal judge has ordered sealed and we're not
21 permitted to disclose, or that some order in this
22 court in this case would require us to go against
23 that advice? I just want to know where you're coming
24 out on that.

25 MS. WIVELL: Well first of all, I haven't

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 seen any evidence that this document is sealed. It's
2 not -- The copy, and I have it with me, I believe,
3 that -- that we received from the depository does not
4 indicate it's sealed. I haven't seen any sealing
5 order. We have a stipulated order in this case that
6 I'd be happy to take the time to get out if
7 necessary, but I believe the last paragraph addresses
8 this issue and it says that the deposition must be
9 produced if it's in the possession of any party --
10 Reynolds is a party to this case, Brown & Williamson
11 is a party to this case -- and it's I believe -- also
12 says that if it's in the possession of the witness it
13 has to be produced 21 days prior to the deposition,
14 and so I think that that order applies. And like I
15 said, no one's shown me a sealing order.

16 MR. McGAAN: Well, you know, but you've
17 avoided my question. You're assuming that RJR may be
18 -- or their lawyers may be misrepresenting what
19 happened in that case. I've not seen the sealing
20 order either, Ms. Wivell, but a lawyer who's admitted
21 to practice in this case has represented to me that
22 it's been sealed, and I have not assumed that they're
23 lying, I've taken that representation. And that's
24 why I'm not free to instruct this witness to turn it
25 over in violation of what's been represented to me to

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 be a Federal Court's order. I don't hear you saying
2 that there has been an order entered in this case
3 that would override such a sealing order, if there
4 was one. Have I misunderstood your position?

5 MS. WIVELL: Well I don't know what the
6 state of the record is because I understood
7 originally that day two was sealed and, lo and
8 behold, RJR produced day two but not day one. So I'm
9 just frankly at sea about this and I do believe -- I
10 wish we had -- I wish the issue had been addressed by
11 B&W's counsel and RJR's counsel beforehand so we
12 wouldn't be sitting here now -- I mean yesterday I
13 was told the deposition was there, so we went and
14 looked. Lo and behold, we find that apparently it's
15 not all there, and I'm just saying that I think this
16 is an issue I -- I wish we could address. I'm not
17 sure that either of us know the facts sufficiently to
18 be able to -- to go forward with it, but I think that
19 we ought to look into it a little further and try and
20 work it out.

21 MR. McGAAN: Your last point I agree with.
22 And I'm going to participate, and Mr. Fribley's going
23 to participate and try to iron out what the state of
24 that record is. But to be clear about something, I
25 sent you a letter in the middle of last week giving

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 you Marilyn Forbe's name -- she's RJR's counsel --
2 the law firm where she works, the town it's in in
3 North Carolina, and setting forth the position they
4 gave to me. And as far as I know, the plaintiffs
5 have made no effort to contact them whatsoever about
6 the representation they've made on their case, their
7 judge, their issue on some sealing order.

8 MS. WIVELL: All right.

9 MR. McGAAN: So it didn't come up for the
10 first time yesterday and the record ought to be
11 clear.

12 MS. WIVELL: Well, Mr. McGaan, just so the
13 record is clear, as you well know, because I told you
14 when we had our telephone conversation last week and
15 when I wrote to you requesting that deposition last
16 week, I was in Washington Thursday and Friday and
17 didn't even see your correspondence until I got back
18 to the office on Saturday, and I started this
19 deposition at 8:30 on Monday morning --

20 MR. McGAAN: Well you've -- you've reminded
21 me that we did talk last Tuesday, which is a week ago
22 today, and I on the phone laid out to you the
23 representation that had been made to me by Marilyn
24 Forbes, so you knew then. But there's nothing we can
25 do about it now, but it did not come up for the first

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 time yesterday. That's all I'm reacting to.

2 MS. WIVELL: I agree it did not come up for
3 the first time yesterday.

4 MR. McGAAN: Okay.

5 MS. WIVELL: And as you know, I appreciated
6 your directing my attention to the deposition where
7 it -- the portion had been produced in the
8 depository.

9 I think that we've probably beaten this horse as
10 far as we can go unless Jack, who is raising his
11 hand, has something to say.

12 MR. FRIBLEY: Just one more point for a
13 clear record. I -- My understanding, what I was
14 informed I thought, was that the entire deposition
15 was there, and I'll inquire at the break, make it
16 clear that you want volume one too, but I think we've
17 made the point that it's really an issue for
18 plaintiffs and Reynolds more than B&W.

19 MS. WIVELL: I have the sense that -- that
20 you thought the whole deposition was there, too.

21 MR. McGAAN: That's what I understood so --

22 MS. WIVELL: All right.

23 BY MS. WIVELL:

24 Q. Sir, one of the documents which you rely on for
25 your expert opinions that you intend to give in this

1 case is the surgeon general's 1979 report; right?

2 A. I believe so.

3 Q. As a matter of fact, that is the second item

4 which is listed on your "Principal Treatises Relied

5 On" list which is part of Exhibit 4400; right?

6 A. Correct.

7 (Discussion off the stenographic record.)

8 MR. McGAAN: Ms. Wivell, while you're

9 pulling out the next exhibit, you've marked the

10 expert report of Dr. Appleton as Plaintiffs' Exhibit

11 4400. That also includes a CV and some other

12 materials disclosed to the plaintiffs some time ago.

13 You should be aware, in case you're not, that last

14 week there was an updated version of the report sent

15 to you which changes one single word. Are you aware

16 of that and do you have it?

17 MS. WIVELL: I saw your correspondence --

18 MR. McGAAN: Okay.

19 MS. WIVELL: -- changing I think

20 "mainstream" -- "sidestream" to --

21 MR. McGAAN: Mainstream.

22 MS. WIVELL: -- "mainstream."

23 MR. McGAAN: There was a mistake in the

24 report you've marked and so "sidestream" on -- the

25 word "sidestream" on page 18 of Exhibit 4400 in the

STIREWALT & ASSOCIATES

P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 expert report of Dr. Appleton, second line from the
2 top, again "sidestream" should read "mainstream."

3 I don't know if you want to -- it's your
4 deposition, you don't have to mark the current one,
5 but I didn't want that to go unnoticed.

6 Q. Sir, do you --

7 Mr. Appleton, do you adopt what your counsel
8 just said?

9 A. Yes.

10 Q. All right. By the way, before we turn to the
11 surgeon general's report, you said yesterday that
12 your report was initially written by lawyers. Who
13 were the lawyers that did that work?

14 A. I don't know all the lawyers that did the work.
15 My main correspondence was with Mr. McGaan.

16 Q. All right. Was there anyone in-house at Brown &
17 Williamson?

18 A. Not to my knowledge, but I don't know who all
19 contributed to it.

20 Q. Mr. McGaan is the person representing you here
21 at this deposition; right?

22 A. Yes.

23 Q. Did you understand that he was the one who did
24 the initial work on it?

25 A. I don't know who did -- who contributed to it.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 He may have. He was the one that I corresponded with
2 on it.

3 Q. All right.

4 (Plaintiffs' Exhibit 4403 marked for
5 identification.)

6 BY MS. WIVELL:

7 Q. Sir, showing you what's been marked as
8 Plaintiffs' Exhibit 4403, this is a Xerox copy of the
9 document entitled "SMOKING and HEALTH, a report of
10 the Surgeon General, U.S. Department of Health,
11 Education and Welfare, Public Health Service, 1979";
12 right?

13 A. Yes.

14 Q. And this is the document that updated the -- was
15 a 15-year report updating the initial surgeon
16 general's report on smoking and health; right?

17 A. I believe so.

18 Q. Could you turn to the secretary's forward that
19 appears on the page that starts with a small "i"
20 toward the beginning.

21 A. Yes.

22 Q. Now this --

23 You've read this document, haven't you, sir?

24 A. Parts of it.

25 Q. Well, have you read the secretary's forward?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. I don't believe I have read the secretary's
2 forward.

3 Q. Just so we're clear here, the secretary that's
4 referred to is Joseph A. Califano, Jr., Secretary,
5 Department of Health Education and Welfare; right?

6 A. Where does it say that? I mean, I don't know
7 that without looking through here and confirming it.

8 Q. It says that at the end of the secretary's
9 forward, doesn't it, sir?

10 A. Yes, that's whose name is at the bottom of the
11 forward.

12 Q. All right. Now why don't you take a minute and
13 read the forward.

14 A. Okay.

15 Q. All right, sir. You have now read the
16 secretary's forward by Joseph Califano, the secretary
17 of Health, Education and Welfare; right?

18 A. Yes.

19 Q. One of the things this forward does is it sets
20 forth the purpose the report was written; right?

21 A. Yes.

22 Q. And one of the purposes was because scientists
23 wished to bring together new information on smoking
24 and health that had accumulated in the 15 years since
25 the first surgeon general's report was released in

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 1964; right?

2 A. Yes.

3 Q. And in fact, according to Secretary Califano,
4 the new report; in other words, this report, was
5 based on scientific research; right?

6 A. That's what it says, yes.

7 Q. And its purpose was to provide facts; right?

8 A. Can you please direct me to where you're
9 reading?

10 Q. All right. I'm looking at the last two pages,
11 you see there's a paragraph that has a little bracket
12 next to it?

13 A. Umm-hmm.

14 Q. And then right under that it says, "This new
15 Report of the Surgeon General typifies the
16 Department's approach to the issue of smoking and
17 health. It is based on scientific research. Its
18 purpose is to provide facts. Its persuasive power is
19 in the weight of the scientific evidence"; right?

20 A. That's what it says, yes.

21 Q. Now sir, I'd like to turn your attention to your
22 opinions that you have set forth in Exhibit 440 --

23 THE REPORTER: 4400.

24 Q. I'm sorry, 4400. I'm having that dyslexia
25 problem again.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 You have listed on the second page of Exhibit
2 4400 your primary opinions; right?

3 A. Yes.

4 Q. Now the third of those I'd like to read into the
5 record and then I'm going to ask you some questions
6 about it. You say, "I fully acknowledge the
7 statistical association between tobacco smoking and
8 certain human diseases as identified by
9 epidemiological research."

10 A. Yes.

11 Q. "While this association suggests...cigarette
12 smoke may be a cause of disease, it is my opinion
13 that sufficient gaps exist in our current state of
14 understanding of the collective scientific literature
15 that precludes anyone from knowing with absolute
16 scientific certainty that smoking is a cause of
17 disease in any person. Such information gaps include
18 a lack of understanding of the factors responsible
19 for anomalies which exist in the current body of
20 epidemiological research concerning smoke and
21 disease, which substance(s) as present in tobacco
22 smoke, if any, are responsible for causing disease,
23 the inability to produce human-type disease in animal
24 inhalation toxicity bioassays of tobacco smoke, and
25 the knowledge about the mechanism of chronic diseases

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 in general and the mechanisms of how tobacco smoke
2 causes disease in particular."

3 Did I read that correctly?

4 A. Yes.

5 Q. Are those the opinions that you're going to give
6 on -- related to the issue of causation in this case?

7 A. Well those and a number of other opinions that I
8 spent all day yesterday giving.

9 Q. All right. So basically this subject or this
10 paragraph that I've just read plus our discussion
11 yesterday form the basis of what you're going to be
12 testifying about when you come to talk to the ladies
13 and gentlemen of the jury; right?

14 MR. McGAAN: Objection, "basis" is
15 misleading.

16 You can answer.

17 A. Well not -- not entirely, but largely, yes. I
18 can't -- It depends upon what we talk about. I can't
19 say what exactly will form the basis of all opinions,
20 but in part, yes.

21 Q. All right. Well let me --

22 A. But there may be other things as well.

23 Q. Well let me phrase -- rephrase the question.

24 The things that we talked about yesterday and
25 this paragraph are the opinions you're going to be

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 talking about related to the issue of causation when
2 you come to testify to the ladies and gentlemen of
3 the jury.

4 A. I assume they are among the opinions. It
5 depends on what you ask me.

6 Q. Well sir, no, I -- the defendant in this case,
7 Brown & Williamson, has put you forward as an expert,
8 and one of the things that they must do, pursuant to
9 the Rules of Civil Procedure, is they must tell us
10 what your opinions are going to be and the basis for
11 those opinions, and I'm just trying to find out if,
12 in accord with that, you have any other opinions on
13 the causation issue that you are going to express
14 when you come to trial.

15 MR. McGAAN: Object to counsel's statement
16 before the words "you have any other opinions," which
17 is the beginning of an actual question.

18 A. Ma'am, it depends on what you ask me and how you
19 ask me. If I were locked into this statement then we
20 wouldn't have to be here for 12 hours and you
21 wouldn't have to ask me the same question repeatedly
22 over and over again if this was it. Obviously it's
23 not. You have other questions you want to ask me,
24 you want to ask me them in different ways
25 repeatedly. I don't know what my opinions are going

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 to be, it all depends on what -- you know, what the
2 circumstances are and what I'm asked and --

3 Q. Well you understand --

4 A. -- what happens.

5 Q. -- you're going to come and testify on behalf of
6 Brown & Williamson; right?

7 A. Yes.

8 Q. All right. And what I'm trying to find out is,
9 are the opinions that you have expressed in this
10 paragraph relating to the issue of causation of
11 cigarette smoking and disease, plus the things you've
12 talked about yesterday, the only opinions you're
13 going to express, or do you have others?

14 A. How can I possibly say if these are the only
15 opinions I'm going to express? I don't know what's
16 going to happen during the proceeding. I don't know
17 what questions I'll be asked and by whom. There's no
18 way I could possibly make an absolute statement these
19 are the only opinions I'm going to express.

20 Q. Well sir, are these the opinions you intend to
21 express during your direct examination by Brown &
22 Williamson's counsel? "These" meaning this
23 paragraph, the third paragraph under "Primary
24 Opinions."

25 A. I don't know. I don't know what questions my

1 counsel's going to ask me.

2 Q. Well what other opinions do you have relating to
3 the issue of causation that are not expressed here
4 and that we haven't already talked about? I'd like
5 you to list them for me so we can talk about them.

6 A. There's no way I can just sit here and list many
7 opinions. I'm not sure what you're even asking me.
8 There's all kinds of things I could talk about.

9 Q. Well what do you intend to talk about with Brown
10 & Williamson's counsel?

11 A. I intend --

12 MR. McGAAN: Let me object to that
13 question. I don't think you meant it as phrased.

14 Q. During -- During your direct examination, what
15 do you intend to talk about with regard to the issue
16 of causation with Brown & Williamson's counsel?

17 A. During the issue of causation?

18 Q. On -- Talking about the issue of causation, yes,
19 sir.

20 A. It depends on what I'm asked.

21 Q. All right. Well sir, I just want the record --

22 A. If you ask me a question, I'll give you an
23 opinion.

24 MS. WIVELL: I just want the record to
25 reflect that we will object to any opinion testimony

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 that is not listed in this witness disclosure since I
2 have tried to elicit what this witness' opinions are
3 on the issue of causation and he has been evasive.
4 So I clearly want the record to reflect that I have
5 tried to find out what additional opinions he may
6 express and he has been reluctant on eight or ten
7 occasions to answer that question or refused to
8 answer that question, so we will object to anything
9 beyond what's written here.

10 Q. Now sir, I'd like to talk about --

11 MR. McGAAN: Wait, wait, wait. Hold on.
12 Hold on, counsel. You made a lot of statements there
13 about how clear this record is, and I don't know why
14 you needed ten lines to tell us all how clear it is
15 if in fact it weren't so clear.

16 The witness has not been evasive. The problem
17 you're having is you're asking this witness about
18 what's going to happen at a direct examination and he
19 doesn't know, nor do I, because I haven't seen your
20 client's case yet. If -- We all know the game that's
21 being played here. You have his primary opinions,
22 they're in a document that was given to you and the
23 words "Primary Opinions" appear there. You've got
24 hours to explore the nuance and the basis of these
25 opinions. So it's unfair to the witness, quite

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 frankly, to say to him are there words you're going
2 to use that are different than these?

3 If you want to explore what underlies these or
4 if there's an additional view about a specific
5 disease endpoint or anything else, you've got all the
6 time in the world to do it. So he's not being
7 evasive, he's trying the best. He's not testified at
8 a trial before, counsel, so he doesn't understand the
9 notion of a direct exam, in all possibility, and
10 you're not being fair with him so your comments are
11 unfair.

12 MS. WIVELL: Well, counsel, I believe I'm
13 being very fair.

14 MR. McGAAN: No, your comments are totally
15 unfair.

16 BY MS. WIVELL:

17 Q. Let me put it this way, sir. This is entitled
18 "Primary Opinions," and it gives three basic
19 subjects that you're going to be talking about;
20 right?

21 A. Yes.

22 Q. Are there any other subjects that you believe
23 that you will be talking about other than the three
24 that are listed in the paragraphs under "Primary
25 Opinions"?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. It depends upon what I'm asked. I've got no
2 basis to know what may come up. There are almost an
3 infinite number of issues surrounding this tobacco
4 litigation.

5 Q. I understand that there are an infinite number
6 of issues. I'm talking about general subjects. I
7 see a subject here about additives; right? You
8 intend to speak about additives.

9 A. If I'm asked about it, yes.

10 Q. Well, sir, do you intend to speak about
11 causation?

12 A. If I'm asked about it, yes.

13 Q. And you intend to speak about generally the
14 subject of a lower-biological-activity cigarette;
15 right?

16 A. If I'm asked about it, yes.

17 Q. All right. And what I have a right to know in
18 this deposition is if there are any other opinion
19 areas that you expect you will be testifying about,
20 because I will put the defendant on notice that I'm
21 not playing games, I'm trying to conduct a discovery
22 deposition here and if he's going to talk about
23 cigarette design or nicotine manipulation I want to
24 know about it now so that I can depose him on those
25 issues. If not, I will clearly bring -- make sure we

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 bring a motion in limine to exclude any evidence that
2 is not within these -- or any opinions which are not
3 within these three primary areas.

4 MR. McGAAN: The -- You've misrepresented
5 what is stated in the disclosure. Towards the back,
6 on page 20, it also indicates that the witness will,
7 or may, rather, offer testimony responsive to issues
8 raised by the plaintiffs that is related to subjects
9 in this report. So it's a -- it's an age-old
10 problem, counsel. When we see your case we may ask
11 this witness questions that rebut evidence that
12 you've offered, but beyond that I will agree with
13 you, you have in this designation the primary
14 opinions and subject matters this witness is expected
15 to address at trial.

16 MS. WIVELL: All right. Well let's --

17 MR. McGAAN: Anything else about what the
18 court might do or motions you or I might file at this
19 point is entirely self-serving, and you and I both
20 know it. Why don't we -- You file something later,
21 we'll argue about it later. But let's use this time
22 to ask him questions.

23 MS. WIVELL: Well that's what I'm trying to
24 do, Mr. McGaan, is find out exactly what we're going
25 to hear about at trial because, by George, if I take

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 a deposition and he doesn't tell me he's going to
2 talk about cigarette design, we are going to
3 absolutely use this record to show the court that we
4 attempted to try and inquire into those areas but he
5 was evasive.

6 MR. McGAAN: No, that's --

7 Q. Let me ask you this, sir.

8 MR. McGAAN: Hold on, counsel.

9 THE WITNESS: I'm not being evasive.

10 MR. McGAAN: Hold on, hold on.

11 Look, if you want to ask him about cigarette
12 design, we'll sit here and do it. This disclosure
13 does not indicate that we're going to at this time
14 affirmatively offer him on, for example, cigarette
15 design issues. If, however, counsel, you put on
16 evidence that goes uniquely to something this witness
17 knows as a factual matter, for example, because he's
18 been employed at the company and in the industry for
19 a number of years, we've reserved our right, as have
20 your people, to rebut that if necessary, depending on
21 what we hear in your case.

22 MS. WIVELL: All right.

23 BY MS. WIVELL:

24 Q. Well let me ask you this, sir, have you read the
25 testimony of Channing Robertson?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Of who?

2 Q. Channing Robertson.

3 A. No.

4 Q. All right. Do you expect to offer any opinions
5 related to the testimony of Channing Robertson?

6 MR. McGAAN: He doesn't know what it is.

7 A. I don't know who he is and I don't know what he
8 talked about. I don't know what his testimony is
9 about.

10 Q. All right. Sir, do you have any expertise in
11 the area of nicotine manipulation?

12 MR. McGAAN: Object, the question's
13 argumentative.

14 A. I have not been directly involved in cigarette
15 design -- First of all, I don't know what you mean by
16 manip -- "nicotine manipulation." Could you please
17 define that for me?

18 Q. You don't know what that term is as used --

19 A. Well it could mean a lot of things to a lot of
20 people. I want to know what you mean when you say
21 it.

22 Q. Well sir, let me ask you this. Do you have any
23 expertise in the area of ammonia technology?

24 A. I have some knowledge about ammonia technology.
25 I am not directly involved in product development or

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 product design or sensory evaluation, but I have
2 knowledge in these areas because of the position that
3 I have within the company.

4 Q. Do you intend, as you sit here today, to offer
5 any testimony, expert testimony, about the area of
6 cigarette design?

7 A. I would not regard myself as an expert in
8 cigarette design. If you ask me a question, I will
9 to the best of my knowledge present how much I think
10 I know about it and give an opinion and qualify it
11 with how much confidence I have in my own opinion,
12 given that this isn't my direct area of expertise.

13 Q. Do you have any experience at all in the area of
14 cigarette design?

15 A. No direct experience. I have some knowledge
16 about cigarette design.

17 Q. What knowledge do you have about the area of
18 cigarette design?

19 A. Well it would be impossible for me to try to
20 recite all knowledge that I have about cigarette
21 design. I have been employed in the industry for
22 probably almost 10 years now. I, among other
23 positions, was a director of quality assurance, which
24 involved some cigarette design areas, and as part of
25 my responsibilities I, on occasion, coordinate

1 technical responses to various matters, including
2 things that are not necessarily directly in my area,
3 but I will coordinate the preparation of responses to
4 various regulatory matters, some of which include
5 cigarette design.

6 Q. Have you included any information about
7 cigarette design in your expert report, Exhibit 4400?

8 A. I believe -- Yeah, I think there might be some
9 areas in cigarette design when I talk about research
10 into products, modified products to respond to the
11 smoking-and-health issue, much of the strategies that
12 were employed by B.A.T. in attempting to modify their
13 cigarettes to hopefully develop a cigarette that
14 would be regarded as safer, did employ a number of
15 cigarette design aspects, it employed a number of
16 blend recipe aspects, so there is some
17 cigarette-design-related information in part of it.

18 Q. Sir, are you aware that Brown & Williamson
19 designs its product to control, for example, nicotine
20 delivery to the smoker?

21 A. I'm aware that once a cigarette design
22 specification is developed and a particular tar
23 delivery range is identified for a particular brand
24 we have quality control assurances to assure that the
25 product is constructed in a uniform way so that it

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 performs in a consistent manner.

2 Q. Well I'm not sure that that answers my question
3 because I didn't ask about tar, so let me re-ask the
4 question.

5 Are you aware that Brown & Williamson designs
6 its product to control the amount of nicotine that's
7 delivered to the smoker?

8 A. Brown & Williamson designs its cigarettes
9 primarily for -- for total TPM delivery or total
10 particulate matter delivery, which is -- includes all
11 the constituents within the smoke, including
12 nicotine, and hundreds, even thousands of other
13 constituents. In that respect, once a cigarette
14 design specification is finalized, the product
15 delivers in a particular tar range which we're
16 required to maintain if we advertise, according to
17 FTC machine-smoking conditions, and we do in fact use
18 quality control procedures to assure that the product
19 performs in a consistent and predictable manner as
20 represented in our advertising. And among the
21 constituents in smoke that are measured by the FTC
22 method is nicotine.

23 Q. By the way, sir, you would agree that the FTC
24 smoking machine does not measure the amount of
25 constituents that are actually delivered to the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 smoker?

2 A. Well the FT -- the FTC smoking procedure is a
3 standardized procedure for identifying deliveries,
4 both tar and nicotine, and to provide rankings of
5 products for relative deliveries. My understanding
6 is it was never intended to represent what every
7 smoker may possibly get under any conditions, and I
8 believe the FTC themselves have -- have said that,
9 that it was never intended to be an exact
10 representation of what everybody may get from smoking
11 a cigarette.

12 Q. Well keeping in mind what you just said, you
13 would agree, though, that the average smoker will
14 probably be delivered a whole lot more of the
15 products of the cigarette smoke than are measured by
16 the FTC machine; right?

17 MR. McGAAN: Object, vague and compound.

18 A. No, I wouldn't necessarily agree with that.
19 I've looked at some of this literature, and I think
20 the issue you may be referring to is compensation.
21 And when you review the literature, what you see is
22 there's a lot of variation in behaviors. In some
23 cases people seem to compensate, the extent to which
24 compensation occurs seems to depend very much on what
25 tar-delivery cigarette they're currently smoking,

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 what they're switching to. In some cases there are
2 studies that show no compensation or studies that
3 show only partial compensation. There are studies
4 that show that if compensation occurs, it may wane
5 over time. It's not clear at all exactly even if
6 they do compensate, to the extent they compensate
7 what it is in smoke that they're compensating for.
8 It may be nicotine, it may not, it may be other
9 aspects of smoking. It's a very variable thing and I
10 don't think -- it would be difficult for me to make a
11 general statement that, yeah, people get much more
12 than what the FTC machine-delivery specification
13 says. I'd just say it depends on what product they
14 were smoking, what product they have switched to and
15 a lot of other variables. The research is really
16 sort of all over the place on this.

17 Q. But you would agree that it's been known within
18 Brown & Williamson for years that what the -- the
19 average smoker gets from a cigarette in terms of
20 delivery of tar and nicotine is much more than what
21 the FTC smoking machine gets.

22 MR. McGAAN: Object, compound.

23 A. I don't believe that's a general understanding.
24 Our understanding is that compensation is a
25 phenomenon that may occur. The understanding, to my

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 knowledge from what I've reviewed in the literature
2 is that compensation can occur upward, it can also
3 occur downward, it could possibly occur or it may not
4 occur at all. So I don't think that there's a
5 general belief or understanding that, at least to my
6 knowledge in my review of the literature, that, you
7 know, the average smoker, and I'm not even sure what
8 the average smoker is because I think the way people
9 smoke cigarettes is as individual as our individual
10 personalities. I don't believe there's a general
11 sense that the average smoker gets way more than what
12 the FTC machine delivery predicts, but certainly I
13 think the phenomenon of compensation is recognized,
14 it's a phenomenon that may occur to certain degrees
15 in various people depending upon the circumstances of
16 -- of their own smoking behavior.

17 Q. Now sir, you haven't seen any documents from
18 Brown & Williamson or B.A.T. that address the issue
19 of the comparison of the FTC smoking machine versus
20 human smoking?

21 A. Yes, I have.

22 Q. Oh, you have.

23 A. Yes.

24 Q. And those documents show an awareness that there
25 is a difference between what human smokers take in

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 when they inhale and what the FTC smoking machine
2 reveals about inhalation of the same cigarette;
3 right?

4 A. Yes, some of them definitely acknowledge and
5 recognize that there may be a difference between the
6 two.

7 (Plaintiffs' Exhibit 4404 marked for
8 identification.)

9 BY MS. WIVELL:

10 Q. Sir, showing you what's been marked as
11 Plaintiffs' Exhibit 4404, this is a document entitled
12 "CONTROL OF GROSS SMOKE DELIVERIES: B&W
13 PERSPECTIVE," by W. H. Deines [dines] --

14 A. Deines [dynus].

15 Q. -- Deines [dynus] from Louisville; right?

16 A. Correct.

17 Q. The document begins with the Bates number
18 402357523; right?

19 A. Yes.

20 Q. You've seen this document before, haven't you,
21 sir?

22 A. Actually I don't think I have seen this
23 particular document.

24 Q. All right. Why don't you take a moment.

25 A. Do you know if there's a date on this?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 MR. McGAAN: I don't see a date on it.

2 Do you have a date on it, by chance?

3 MS. WIVELL: No, I don't.

4 MR. McGAAN: Okay.

5 (Discussion off the stenographic record.)

6 THE REPORTER: Off the record, please.

7 (Recess taken from 9:23 to 9:37 a.m.)

8 BY MS. WIVELL:

9 Q. Sir, directing your attention to Exhibit 4404,
10 you've now had the opportunity to read it; right?

11 A. Yes.

12 Q. And this paper gives an overview about how B&W
13 designs cigarettes to control the deliveries of tar,
14 nicotine, tar/nicotine -- Strike that.

15 You would agree, sir, that this exhibit gives an
16 overview of how B&W designs cigarettes to control for
17 certain deliveries in a puff of cigarette smoke.

18 MR. McGAAN: Object, mischaracterizes the
19 document.

20 A. I wouldn't characterize it that way. I would
21 say that it describes a computer-assisted cigarette
22 design program which appears to be designed to aid
23 cigarette designers to predict what deliveries may
24 be, given certain cigarette design changes or blend
25 recipe changes that they may make, and compare that

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 to a reference, a standard reference cigarette. It
2 also talks about possible ways that different
3 delivery changes could be effectuated, given the
4 nature of different blend components and cigarette
5 design parameters that may be employed. I don't
6 think it gives a strategy or gives a directive of
7 what to do or how to do it. It sort of just
8 discusses the computer system and ways to achieve
9 different deliveries employing different cigarette
10 design and blend-component characteristics.

11 Q. Well sir, how do you square your answer with
12 what the author of this paper writes right under the
13 word "Introduction" when it says, quote, "This paper
14 gives an overview on how B&W designs cigarettes to
15 control the deliveries of tar, nicotine,"
16 tar/nicotine "and carbon monoxide, as well as puff
17 number"?

18 MR. McGAAN: Object, vague as to "square."

19 A. Maybe what I said really isn't different than
20 what that says. I don't see it as a -- as a
21 directive. It gives an overview of ways that it can
22 be done.

23 Q. All right. And one of the ways that it's done
24 at B&W is through this computer-assisted design
25 program for cigarettes; right?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 MR. McGAAN: Objection, mischaracterizes.

2 A. It appears from the document that that -- that
3 that is a way to assist product developers in
4 predicting what the effect may be on deliveries of a
5 given change.

6 Q. This computer system that's described here is in
7 use at Brown & Williamson, isn't it?

8 A. I don't know if it is or not.

9 Q. You just don't have the expertise in order to
10 answer that question.

11 A. That's right. As I indicated, I'm not directly
12 involved with cigarette design, so whether it is in
13 current use or not, I have no idea.

14 Q. All right. Now one of the things that's
15 discussed here is the control of tar/nicotine ratios,
16 isn't it, sir?

17 A. That is mentioned, yes.

18 Q. And if we turn to the page that ends with Bates
19 number 529 we see that there is a slide, actually,
20 entitled "CONTROLLING TAR/NICOTINE RATIOS"; right?

21 A. Yes.

22 Q. And one of the things that is talked about is
23 the use of EBR and other ammonia treatments to
24 increase nicotine transfer; right?

25 A. Okay. And you're looking at what, point number

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 -- the third point on the page here?

2 Q. Yes, under "RECONSTITUTED TOBACCOS." Do you see

3 that, sir?

4 A. Yes, I see that.

5 Q. All right. Do you have any expertise in the use

6 of EBR to increase nicotine transfer?

7 A. I don't -- I haven't been involved with use of

8 EBR or I haven't set out to design blends or design

9 cigarettes using EBR.

10 Q. What is "EBR," sir?

11 A. EBR is an acronym, and I don't know what it

12 stands for but it's a type of reconstituted tobacco.

13 Q. All right. Now sir, have you had any

14 involvement with the use of ammonia treatments to

15 increase nicotine transfer?

16 A. Well what -- Yes. What I've done is I haven't

17 had direct involvement in that, I'm not responsible

18 for cigarette design and blend determinations, but

19 what I have done is gone back and researched data and

20 research reports within B.A.T. and Brown & Williamson

21 that pertain to use of ammonia-related treatments in

22 an effort to ascertain whether or not ammonia in fact

23 does many of the things that had been -- that it has

24 been alleged to do in the press. And there have been

25 a number of press articles that talk about different

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 allegations about ammonia and what effects it has on
2 nicotine and other things, and so I have made an
3 effort to go back into the historical research
4 reports and review what was there and make a
5 determination for myself and make my own assessment
6 of what I thought was going on.

7 Q. Well do you intend to talk about this as part of
8 your expert testimony for Brown & Williamson?

9 A. It depends upon if somebody asks me about it.

10 Q. Well sir, can you point me to the part of your
11 expert report where you talk about this assessment?

12 A. I don't believe I mention that in here.

13 Q. All right.

14 MS. WIVELL: And for the record, if the
15 defendant intends to tender this witness on that
16 subject, the research that he has done relating to
17 ammonia, we would request the right to depose him
18 again on that subject, because since it wasn't
19 disclosed in his expert disclosure, this comes as a
20 surprise to us and I'm not fully prepared here today
21 to talk about that particular subject with this
22 witness much beyond what we've talked about now.

23 MR. McGAAN: Are you done --

24 MS. WIVELL: Yeah.

25 MR. McGAAN: -- with your statement?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 This witness on this record now, as you're
2 aware, has factual knowledge about ammonia in Brown &
3 Williamson's cigarettes. I don't intend to offer him
4 at this time at trial as an expert in ammonia
5 technology, but we certainly do have the right to ask
6 him questions about the issue of what he knows
7 factually as a result of having spent time at the
8 company and learned information like this as part of
9 his job, quite apart from the role he might play as
10 an expert at the trial.

11 MS. WIVELL: Well I think that that -- that
12 particular issue surprises me, your statement about
13 that, because we had no knowledge that you intended
14 to call him in that regard.

15 MR. McGAAN: In what regard?

16 MS. WIVELL: With regard to his knowledge
17 concerning ammonia.

18 THE WITNESS: May I just make a -- complete
19 a statement?

20 MR. McGAAN: No, no.

21 THE WITNESS: Okay.

22 MR. McGAAN: You have to wait 'til there's
23 a question. We can talk about --

24 Q. Well sir, let me ask you this, what capacity did
25 you research the reports pertaining to ammonia?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Well, I guess in several capacities. As
2 indicated in my expert report, I'm responsible for
3 assessment of materials used in cigarette products,
4 which include additives, and ammonia is an additive.
5 So in that respect there is allusion at least to the
6 possibility that I could talk about it in that we
7 talk about additives, and there are many additives,
8 so I don't know what additive may come up. And you
9 may raise some specific ingredients, or you may not,
10 I don't know, that -- some have been raised
11 surrounding this -- these issues.

12 Also, as I indicated, that on occasion I'm asked
13 to coordinate responses to various regulatory
14 matters, and among the -- or other matters that come
15 up, and in the press and in FDA's proceedings there
16 have been allegations made about the role of
17 ammonia. So in that respect I assisted in
18 coordinating development of what we knew about that
19 issue and responding to that issue.

20 Q. Assisted in coordinating whom, sir?

21 A. "Coordinating whom"?

22 Q. Yes.

23 A. I don't know what you mean by that.

24 Q. Well you said "I assisted in coordinating."

25 A. What I meant is coordinating a response to the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 regulatory issues that were raised by the FDA and in
2 various press releases. I set out to do an
3 investigation internally of what we knew about the
4 issue and what was known, and that included talking
5 to various people who had more direct knowledge than
6 I did and learning what they knew, learning what --
7 what -- what the various issues were and what was
8 being discussed.

9 Q. Well have you included any of the documents that
10 you reviewed in your expert report in your list of
11 reliance materials?

12 A. I'd have to go over the list to see. There may
13 be some.

14 Q. Do you recognize them by Bates number, sir?

15 A. I'm afraid not.

16 Q. All right. Well let's talk about the opinions
17 that you apparently have developed as a result of
18 this research on ammonia that you've been referring
19 to.

20 MR. McGAAN: Before you -- Before you go
21 into a question, I need to clarify our position in
22 this regard. It's not going to end the confusion, I
23 predict, but -- on your behalf. But his CV
24 discloses, Ms. Wivell, his job at the company, which
25 includes just what he described, and this witness has

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 factual knowledge about many, many issues that we
2 have not tendered him as an expert to offer opinions
3 as that -- as those terms are used in a court of
4 law.

5 You can ask him if he has opinions on other
6 issues, this time is yours, but you're hopelessly
7 confusing factual knowledge he has about the company
8 and its activities with his role as he's being
9 proffered as an expert in this particular trial.

10 MS. WIVELL: Well what I am trying to avoid
11 here is the surprise of having a witness come in -- I
12 have asked him specifically if he's going to testify
13 in areas beyond the three primary opinions that are
14 listed on the second page of Exhibit 4400. I
15 received responses "I don't know," "I can't tell you"
16 in the realm of, "well we'll see what comes up." So
17 I'm trying to see whether this company is intending
18 to bring this man in here -- into this trial to talk
19 about whether ammonia increases nicotine-transfer
20 efficiency or whether Brown & Williamson used
21 ammonia, as it says here, to increase nicotine
22 transfer, as it says in Exhibit 4404.

23 If he's got opinions, I have a right to them. I
24 have tried every which way to try and get those
25 opinions on the record, and I don't want to be

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 sideswiped at trial by having someone come in and
2 say, oh, no, these aren't opinions, these are really
3 -- this is factual information. So I'm trying to
4 get these opinions that are really factual
5 information on the record right now, and that's what
6 I'm asking him about.

7 MR. McGAAN: No, and that's -- that's
8 fair. The point of my comment is only to highlight
9 the fact that we're here to have this witness answer
10 all your questions.

11 MS. WIVELL: Well --

12 MR. McGAAN: Let me finish. The problem
13 is, if you put a witness on or offer evidence at
14 trial that suggests that ammonia is used in Brown &
15 Williamson's commercial cigarettes for any number of
16 the reasons that have been stated, say, for example,
17 in the press or by the FDA, and this witness or any
18 other witness at Brown & Williamson has factual
19 information that that is in fact false, we'll offer
20 that factual information that it's false.

21 You have a disclosure of what this man will be
22 offered to testify about as an expert at trial and
23 offer opinions. He may have other expertises; we're
24 not proffering him in those areas. But he's been at
25 the company since 1991, his responsibilities are

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 disclosed in the CV, he knows about a lot of things
2 that this company does and does not do and he is not
3 going to be muzzled at trial in rebutting inaccurate
4 factual information if, in our perception, that's
5 what the plaintiff puts on.

6 MR. McGAAN: Well clearly you have the
7 testimony of Channing Robertson, you know what our
8 position is, and I think it would be much more
9 appropriate for you to fess up and be honest and say,
10 yes, this man is going to testify about this subject
11 so that I could depose him and that we would have the
12 right to an expert report, which we don't have. This
13 came as a shock out of the blue to me that this man
14 may have these opinions and that he may render them
15 at trial, because certainly I shouldn't have to
16 divine from an expert report that he may give these
17 opinions. I'm here to depose him, I'm going to try
18 and find out what his opinions are.

19 MR. McGAAN: We're not -- We're trains in
20 the night here. It's not -- We're not going to offer
21 an expert opinion on ammonia chemistry through this
22 witness. That's why there's no surprise here. He's
23 at the company, the CV discloses, and -- and I'm not
24 going to have to quote it into the record, what his
25 job is. Currently at Brown & Williamson this man's

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 title is director of scientific and regulatory
2 affairs. You've had this CV for months, counsel.
3 And it says, and part of his responsibilities is to
4 maintain -- or is to be, quote, "Responsible for
5 safety and regulatory assessment of product
6 ingredients, packaging components, and factory
7 materials. Maintain technical expertise and develop
8 technical positions related to major smoking and
9 health related issues. Respond to proposed
10 regulatory initiatives, assure compliance with the
11 existing regulations world wide. Provide technical
12 support to the Law Department in litigation related
13 activities." That's his job, and he does that every
14 day and he gathers factual information.

15 There is a distinction between fact information
16 in opinion witness of experts at trial, as you're
17 well aware. There's no surprise at all. You have
18 one of the most detailed expert reports I've seen in
19 any of these cases about what this man will offer on
20 behalf of my client at trial as an expert witness in
21 a courtroom. If you want to know what he does at his
22 job, we spent six hours on the record -- we spent
23 more time than that here yesterday, but six hours of
24 time asking him questions without getting into what
25 he does for a living at Brown & Williamson, but we've

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 got more time today. Let's go into it, ask him about
2 that.

3 MS. WIVELL: Well sir, the very fact that
4 you would suggest I should divine from his curriculum
5 vitae that he may testify about nicotine transfer or
6 the purpose of nicotine I think is disingenuous at
7 best and downright misleading as false -- and false.
8 This man's expert opinion, as best I've been able to
9 -- to read it after several readings through his
10 report, doesn't even mention nicotine manipulation or
11 nicotine transfer or any of the things you think I'm
12 supposed to figure out that he's going to testify
13 about based on my reading of his curriculum vitae.
14 That's the purpose of an expert report, Mr. McGaan,
15 you know it and I know it and I think --

16 MR. McGAAN: I don't know it. That's -- I
17 don't know that whatsoever. The purpose of the
18 expert --

19 MS. WIVELL: Well then I think you should
20 -- Excuse me.

21 MR. McGAAN: No, no.

22 MS. WIVELL: I wasn't finished, sir.

23 I think you should read the Rules of Civil
24 Procedure. Now I'd like to proceed.

25 MR. McGAAN: No, no. I -- We're not --

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 MS. WIVELL: And we're going to continue
2 with my time. We have taken up a lot of it, and I
3 would like to go forward with questioning.

4 MR. McGAAN: That's -- but we're not going
5 to go forward until I respond. You just suggested I
6 was being, in some way, dishonest. There is a
7 distinction between fact testimony and expert opinion
8 in every trial I've ever participated in, and that's
9 in your Civil Rules here in Minnesota also. This
10 disclosure is not everything this man knows about
11 cigarettes, it's what we're offering him as an expert
12 on. He has expertise in areas that we're not
13 offering him in this trial on. That's the purpose of
14 the report, counsel.

15 If you want to know what he does for a living
16 and what he learned when he went to work every day,
17 you can ask him that. If you're not going to offer
18 any evidence on the role of ammonia in my company's
19 cigarettes, we may not ask him a single question
20 about it.

21 MS. WIVELL: Well Mr. McGaan, you know we
22 are going to.

23 MR. McGAAN: If you offer inaccurate
24 factual information, in our view, about what this
25 company does and he has contrary factual information,

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 we're entitled to rebut it by asking him about it.

2 It has nothing to do with his expert opinions. Look,

3 we've beat it to death. Why don't we just go on with

4 the questioning.

5 MS. WIVELL: Sir, there's a question

6 pending.

7 BY MS. WIVELL:

8 Q. I would like to talk about the facts as you see

9 them or the opinions that you have gleaned as a

10 result of your research. All right?

11 First of all, what opinions do you have

12 concerning nicotine -- the addition of nicotine to

13 Brown & Williamson's cigarettes?

14 MR. McGAAN: Object, vague.

15 A. To the best of my knowledge, B&W does not add

16 nicotine to its cigarettes.

17 Q. I'm sorry. Strike that.

18 What opinions do you have concerning the

19 addition of ammonia to Brown & Williamson's

20 cigarettes?

21 A. Did you say "addition" or "addiction"?

22 Q. Addition of ammonia, sir.

23 A. Well I'm aware that various ammonia-related

24 ingredients are employed as cigarette blend

25 components.

STIREWALT & ASSOCIATES

P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. And what are those?

2 THE WITNESS: Would this be an area where
3 we're getting into trade secret? She's asking me for
4 specific ingredients.

5 MR. McGAAN: Yeah, if you have a concern
6 about proprietary information we ought to talk about
7 it before you testify.

8 A. Well let me just mention I'm -- You have asked
9 me what ingredients we use and I think we would
10 consider that proprietary, trade-secret information
11 and I don't know what the status of this transcript
12 is and who's going to have availabil -- access to
13 it. I mean, I can talk about it but I just wanted to
14 raise the issue that this could be trade-secret
15 information if I start mentioning what ingredients we
16 use, at what levels, in what blends, and so forth.

17 MR. McGAAN: One second.

18 (Counsel confer off the record.)

19 MR. McGAAN: Yeah, if you want to get into
20 questions about the actual ingredients the company's
21 using in its commercial products, we should treat
22 this portion as Category 2 and just proceed.

23 MS. WIVELL: All right. Let's go off the
24 record.

25 THE REPORTER: Off the record, please.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 (Record closed at 9:57 a.m. and reopened
2 at 10:16 a.m.)

3 BY MS. WIVELL:

4 Q. Sir, I think that you said, or maybe it was your
5 counsel said earlier that you had reviewed some of
6 the claims made by the FDA concerning the use of
7 ammonia in Brown & Williamson's cigarettes; is that
8 right?

9 A. Well the FDA, as well as claims that were being
10 made in the popular press.

11 Q. All right. What claims were those that were
12 made by the FDA?

13 A. I think they may have included that Brown &
14 Williamson spikes its cigarettes with nicotine, that
15 Brown & Williamson intentionally alters the tar and
16 nicotine ratio to addict smokers, that ammonia is
17 added to enhance the levels of nicotine in cigarette
18 smoke with the intent of addicting smokers, that
19 ammonia is added to increase the biological
20 availability of nicotine with the intent of addicting
21 smokers -- those are the major ones. I mean, FDA
22 made a lot of allegations and a lot of allegations
23 have been made in the popular press, and I'm sure I
24 could think of more, but as I sit here now those are
25 the major ones.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. All right. Let's take them one at a time.

2 Have you formed an opinion, based on your review
3 of the documents of Brown & Williamson, whether Brown
4 & Williamson spikes its cigarettes with nicotine?

5 A. Well if "spiking" means intentionally added an
6 external source to achieve a significant increase in
7 nicotine, no. But there are two ingredients that --
8 that can contain trace amounts of nicotine in
9 cigarettes, so I don't want to be misleading and I do
10 want to mention that -- what those ingredients are.

11 Q. They are?

12 A. One is specifically denatured alcohol number 4.
13 That is an alcohol which has been designated by BATF
14 as the denatured alcohol which is appropriate to use
15 by tobacco companies as a solvent to dissolve flavors
16 for the purpose of applying it to tobacco, and it
17 contains, among -- it contains nicotine as a
18 denaturant to render it nonpotable or nondrinkable,
19 which is part of what BATF does. They have many
20 denatured alcohols. That's the one that's been
21 specified as being the appropriate one for tobacco
22 companies. And the other one is an ingredient that
23 we do not use any more but have used in the past,
24 which is tobacco extracts, and that contains -- both
25 of those contain very, very low levels of nicotine,

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 but their contribution to the total blend nicotine
2 level, the amount of nicotine that occurs naturally
3 in tobacco is minuscule.

4 MR. McGAAN: Before you put your next
5 question, let me make a brief statement. You're free
6 to inquire about his opinions on ammonia or any other
7 issue in connection with this litigation, but you do
8 run the risk that we would then have the right to
9 seek to qualify him at trial as an expert on issues
10 you've examined him with regard to opinions today.
11 We haven't put him up as an expert for trial purposes
12 in this area.

13 If you want to inquire about the facts that he
14 may know, that's a different thing, but that -- we
15 may or may not take that position later if you want
16 to conduct this examination seeking opinions of this
17 witness on areas that we didn't disclose him as an
18 expert in, but it's your call.

19 MS. WIVELL: Well counsel, again we have
20 this little problem, because I was told earlier in
21 this deposition this morning that he had facts and he
22 had come to some conclusions or opinions based on his
23 review, and that's what he did as part of his living,
24 so I just want the record to be clear that I don't
25 think that my asking these things in order to try and

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 divine what he's going to tell us at trial as facts
2 is in any way suggesting it's appropriate for him to
3 testify on these issues, and if you decide to put him
4 up as an expert in this area that we would want the
5 right to take his deposition again, because I am not
6 prepared and was not because his expert opinion gave
7 me no clue that he was going to talk about this
8 area. So I'm doing the best I can to try and figure
9 out what these facts are that he has derived as a
10 result of this investigation he did, and that's what
11 I'm doing, is trying to get those out. But I don't
12 in any way suggest that we have waived our right to
13 object to his either use as an expert in this area
14 since he wasn't previously disclosed, or our right to
15 take his deposition again if you decide to proffer
16 him as an expert in the area of whatever conclusions
17 he came to as a result of this investigation. I just
18 think that since it wasn't addressed and it's kind of
19 been back-doored in here, that I want the record to
20 be clear about what's happening.

21 MR. McGAAN: Nothing's been back-doored.
22 You can frame the questions any way you want. He has
23 factual information about ammonia chemistry and many
24 other issues as a consequence of his job experience.
25 I'm simply stating if you care to frame your

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 questions as opinions, he'll answer them, he's not an
2 expert in how we lawyers or the court distinguishes
3 between fact and opinion for trial purposes. It's
4 completely up to you. But we're not proffering him,
5 as our disclosure with regard to this witness
6 reflects, as an expert for trial purposes in ammonia
7 chemistry. You can ask him about his opinions in
8 this area all you want, but there's been no
9 back-dooring. If you want to know about facts, you
10 can ask the questions differently. It's up to you.

11 BY MS. WIVELL:

12 Q. Now sir, you in your last answer referred to
13 BATF, that's the Bureau of Alcohol, Tobacco and
14 Firearms?

15 A. Correct.

16 Q. All right. Just so there's no question that
17 we're talking about B-A-T here.

18 A. Correct.

19 Q. Now sir, you would agree that one thing that
20 Brown & Williamson does with its tobacco in its
21 cigarettes by the use of ammonia chemistry is to
22 alter the form of the nicotine as its -- appears in
23 the cigarette smoke.

24 MR. McGAAN: Object, vague.

25 A. What do you mean by "alter the form," in what

1 way?

2 Q. Well sir, you would agree that the nicotine that
3 is subject to ammonia treatment in a Brown &
4 Williamson cigarette changes its form from bound to
5 unbound nicotine, at least some of it does; right?

6 A. That -- That's not my -- my belief based on data
7 that I have reviewed.

8 Q. And what data have you reviewed that is contrary
9 to that?

10 A. Data that pertains to the re -- the effect of
11 addition of ammonia to smoke pH.

12 Q. Which data is that, sir?

13 A. Data indicated in historical reports of research
14 that's been conducted in this area, and another
15 source of data is analysis, tests that we've
16 conducted on our brands as manufactured and sold in
17 the marketplace, and the pH of the smoke on our
18 brands as present sold in the marketplace, thereby
19 reflecting the -- whatever contributions ammonia may
20 or may not have to smoke pH.

21 Q. Which historical reports are you referring to,
22 sir?

23 A. I don't know if I can name them all. Various
24 reports that -- that deal with the issue of -- I mean
25 what do you want, titles or authors?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Well, can you -- Yeah, please.

2 A. Well one report that I can remember the name of
3 is Root Technology Decomposition Products.

4 Q. All right. What other reports are you relying
5 on?

6 A. A series of three reports. I don't know the
7 titles, but they're reports from Brown & Williamson
8 research that -- that look at the effect of addition
9 of various levels of different types of reconstituted
10 tobaccos on a variety of parameters, including
11 tobacco chemistry, smoke chemistry and sensory
12 effects.

13 Q. What other reports are you relying on?

14 A. I have two reports that I remember that deal
15 with again the effect of addition of different types
16 of reconstituted tobaccos that contain
17 ammonia-related ingredients -- I forgot the names --
18 and what the effects are of addition of these
19 reconstituted tobaccos to a variety of parameters,
20 including smoke pH.

21 Q. Anything else?

22 A. Well the smoke pH data that I mentioned, we
23 looked -- we measured the pH of all of our brands,
24 and that was written up in reports as well.

25 Q. Who did that?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. We did it in the R&D labs in Macon.

2 Q. When was that done?

3 A. Probably about six months ago. I don't know
4 exactly, but somewhere in that time frame. Somewhat
5 recently but not immediate time frame.

6 Q. Are any of these reports that you have just
7 referred to, are they on your reliance list, sir?

8 A. I don't believe so.

9 Q. Who was the scientist who measured the smoke pH?

10 A. Let me think. Joe Dong is one of the authors of
11 the report and I think he probably did the actual
12 analyses. I mean, several people were involved.
13 Another name is Bruce Thompson. I think he may have
14 authored at least two of the reports.

15 MR. McGAAN: Can you spell Joe's last
16 name?

17 THE WITNESS: I think it's D-O-N-G.

18 Q. All right. Have we now talked about all of the
19 historical reports that you have referred to that
20 you're relying on?

21 A. All the ones that I can recall at this time.

22 Q. Now you also mentioned that you were -- you
23 believed that a basis for your opinion here was tests
24 conducted on brands.

25 A. Yes.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Are we talking about marketed cigarettes?

2 A. Well they were pulled off the manufacturing
3 line. They were destined for market, they weren't
4 actually in the market. We pulled samples, you know,
5 off our production line which would have been
6 otherwise packed and shipped out to wholesale
7 distribution centers, or to distribution centers,
8 sorry. I didn't mean "wholesale."

9 Q. Are there any other things that you have
10 referred to to come to the conclusions that you've
11 drawn?

12 A. I've had discuss -- We have --

13 I mean, there's a lot of things -- I can't think
14 of all of them -- but I have looked at the levels of
15 ammonia in cigarette tobacco and cigarette smoke in
16 general, what the levels are, and then looking at
17 what effect, if any, addition of ammonia has, and the
18 effect is quite small, you hardly notice.

19 First of all, the amount of ammonia in cigarette
20 tobacco smoke is quite low, and the impact of adding
21 ammonia-related ingredients is very small. You
22 hardly notice a -- any kind of significant increase
23 in smoke ammonia levels. And also just general
24 considerations of -- of the chemistry that goes on
25 when ammonia is added to tobacco, the types of things

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 it might react with, the general chemical
2 considerations such as the amount of nicotine in
3 smoke compared to the amount of ammonia in smoke.
4 The amount of ammonia is quite small compared to the
5 amount of nicotine, so just from a chemistry point of
6 view considerations of how such a small amount of
7 ammonia might effectuate a change in such a large
8 amount of nicotine. A number of considerations. I
9 don't think I can mention all of them or remember all
10 of them at this time.

11 Q. Well sir, going back to the last exhibit we just
12 had out here, Exhibit 4404.

13 A. Yes.

14 Q. Was this a document that you considered in
15 coming to the conclusions that you've been talking
16 about with regard to ammonia?

17 A. No, I hadn't seen this document before.

18 Q. Now it says here on the page that ends with
19 Bates number 529 that one of the ways that Brown &
20 Williamson controls tar and nicotine ratio is through
21 the use of reconstituted tobaccos with EBR and other
22 ammonia treatments which increase the nicotine
23 transfer.

24 A. Right.

25 Q. Right?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 So you did not consider this document in coming
2 to the conclusions that you've been talking about
3 with regard to ammonia chemistry; right?

4 A. Not this specific document, but I did review
5 other documents that -- that discuss the issue of
6 nicotine-transfer efficiency, as well as some data
7 related to nicotine-transfer efficiency.

8 Q. Sir, did you review the minutes of the 1989
9 Ammonia Technology Conference?

10 A. I think I've seen some of them or portions of
11 them. If you show me them, I can refresh my memory.

12 Q. Well, unfortunately I can't because I wasn't
13 prepared to discuss this subject with you.

14 Now let me ask you this. This document, Exhibit
15 4404, goes on to say -- there's another slide
16 entitled "NEEDED TECHNOLOGY/UNDERSTANDING"; right?

17 A. Yes.

18 Q. And it says at the bottom, "How can nicotine
19 transfer efficiencies be increased"; right?

20 A. Yes.

21 Q. And then it says, example PM; right?

22 A. Looks like it says "EG" and I don't know what
23 that -- I guess that might mean "example."

24 Q. All right. And then it says --

25 Do you understand, based on your review, that

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Brown & Williamson reverse engineered Marlboro in
2 order to determine what made Marlboro so attractive
3 to smokers?

4 A. My understanding is that Brown & Williamson did
5 do a considerable amount of analyses, both sensory
6 and chemical-wise, trying to determine what -- what
7 they're doing technology-wise, blend-wise, cigarette
8 design-wise to achieve the smoke quality that they
9 achieve in their cigarettes.

10 Q. By "they" in your last answer, you're referring
11 to Philip Morris; right?

12 A. Yes.

13 Q. And have you seen the documents concerning the
14 reverse engineering of Philip Morris?

15 A. Some of them.

16 Q. Now sir, the next sentence of this chart on
17 Exhibit -- or this slide in Exhibit 4404 says "What
18 process...exists (other than ammonia treatments) that
19 will liberate more nicotine"; right?

20 A. I'm sorry, I don't know where you are now.

21 Q. Right under the sentence we just read.

22 A. Oh.

23 Q. It says, "What processes exist (other than
24 ammonia treatments) that will liberate more
25 nicotine."

STIREWALT & ASSOCIATES

P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. That's what the document reads, yes.

2 Q. And sir, isn't it a fact that Brown & Williamson
3 did indeed try to liberate more nicotine through the
4 use of ammonia and other treatments?

5 A. I don't know if we tried to or not. I know that
6 it says that. There's been a lot of discussion in
7 the documents that I have seen that talk about this
8 concept of nicotine-transfer efficiency, and from my
9 review there's a lot of confusing information. There
10 are people who -- who believe that addition of
11 ammonia influences nicotine-transfer efficiency and
12 there's people who believe it don't -- that it
13 doesn't. I've seen a lot of statements like this
14 with very little data to back it up, but from the
15 data that I've reviewed it doesn't appear that --
16 that ammonia-related ingredients have a specific
17 effect on nicotine, but that certain -- at least from
18 the data that I've seen -- but that certain, not all
19 but certain ammonia-related ingredients have the
20 effect of slowing the burn rate of the cigarette and
21 thereby resulting in more puffs taken during a
22 standard FTC machine-smoking condition, and therefore
23 total deliveries go up, which include nicotine.
24 Q. Well sir, you are aware, based on your review of
25 Brown & Williamson documents, that there was the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 intention within Brown & Williamson to try and
2 increase the nicotine-transfer efficiency through the
3 use of ammonia technology; right?

4 A. My understanding is that the primary reason for
5 use of ammonia technology is for achieving flavor
6 attributes, which are achieved mostly through
7 reaction of ammonia with sugar compounds and thereby
8 forming classes of compounds referred to as
9 pyrazines, which are things that occur naturally in
10 bread and cooked meat, and occur naturally in tobacco
11 as it's cured.

12 Now there's been a lot of speculation about
13 other things that ammonia may do and there's been, as
14 I said, disagreement, confusion and conflicting
15 statements within Brown & Williamson documents and
16 even opinions that I've talked -- when I've talked to
17 people about what does ammonia do, it's been an area
18 of great folklore, frankly, within our company, and
19 it's not completely clear when you read the documents
20 what's so and what's not. But nevertheless, a lot of
21 people speculated about a lot of things. In many
22 cases they did it without any data, they just sort of
23 supposed this -- thus and such may happen.

24 When I reviewed this I set out to review actual
25 data that supported or rebutted any of the assertions

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 that had been made either in the press or, frankly,
2 by people within our own company about their belief
3 about what ammonia may do.

4 When I looked at this specifically, I didn't see
5 any indication that addition of ammonia has a
6 specific effect on nicotine; however, I did see
7 evidence that -- that one ingredient in particular, a
8 phosphate-containing ingredient, slowed the burn rate
9 of cigarettes down, thereby increasing the total
10 amount of smoke, which when you go through the
11 calculation would -- would result in an increased
12 nicotine-transfer efficiency.

13 Q. And what was that ingredient, sir?

14 A. Diammonium phosphate.

15 Q. Now sir, going back to Exhibit 4404, if you take
16 a look at the second paragraph --

17 A. Of which page?

18 Q. The first page. It ends with the phra -- with
19 the statement "Another area of need is how to further
20 increase nicotine transfer efficiencies"; right?

21 A. Second paragraph?

22 Q. Yes, sir.

23 A. And which sentence?

24 Q. The last one.

25 A. Yes.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. You would agree that your review of the
2 documents demonstrates that there were individuals
3 within Brown & Williamson who believed that ammonia
4 would increase nicotine-transfer efficiencies in
5 cigarette smoke; isn't that --

6 A. Yes. There certainly does appear to be people
7 who believe that occurred. As I said, though, it's a
8 controversial issue and I think the degree of
9 controversy is even reflected in this document, on
10 page -- I can't read it -- 20, it's Bates number
11 402357531, in point number 2, where Dr. Deines says
12 that, well, one guy, or someone thinks that Philip
13 Morris products have higher nicotine-transfer
14 efficiency; however, some other people did some
15 analysis and they're not quite so sure if it does.

16 Q. And sir, you're aware because of your review of
17 the 1989 Ammonia Technology Conference that there was
18 a whole section of that conference at which the
19 nicotine-transfer efficiency that was effected or
20 obtained through ammonia technology was discussed;
21 right?

22 A. I'm not sufficiently familiar with the minutes
23 to that conference to be able to agree or disagree
24 with your statement. It wouldn't surprise me if
25 there was a whole section on that.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Well sir, you would agree that the idea that
2 ammonia effected an increased nicotine-transfer
3 efficiency was a working hypothesis within Brown &
4 Williamson for years, wouldn't you?

5 A. There definitely appeared to have been a belief
6 that -- that that could be a possibility among some
7 people. As I said, other people doubted it. What I
8 review -- I reviewed two things. One is beliefs that
9 were expressed, but then I also reviewed actual data
10 concerning product characteristics, and that's what
11 I'm primarily relying on when I say it's not my
12 understanding that ammonia actually does do this.
13 And I've reviewed delivery data, I've reviewed smoke
14 pH data and other data, and from my review it doesn't
15 support any indication that nicotine-transfer
16 efficiency is actually happening, although I will
17 acknowledge that certain people did express beliefs
18 about that from time to time.

19 Q. Does your, or did your review reveal to you that
20 the use of ammonia in Brown & Williamson's cigarettes
21 changed the nicotine -- changed a portion of the
22 nicotine from bound nicotine to free nicotine?

23 A. No, my review indicated that it wouldn't, it
24 didn't support it. And let me explain what that was
25 based upon.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 The theory that ammonia is altering the form of
2 nicotine from the ionized to the nonionized or from
3 the bound to the unbound, the central assumption on
4 that is that the addition of ammonia in fact affects
5 the smoke pH, the pH of the smoke. So without a
6 change in smoke pH, you can't get any of these other
7 theorized effects that have been ascribed to ammonia,
8 and that's why I set out specifically -- specifically
9 to investigate this issue of whether or not there is
10 evidence that use of ammonia in fact does affect the
11 smoke pH. And when I looked I didn't find evidence
12 of it and so -- from our own existing research, so
13 then I set out to coordinate the -- the testing of
14 all of our brands for actual smoke pH.

15 Q. What did you do to test all these brands for
16 smoke pH?

17 A. We pulled brands off the market -- not off the
18 market but off our production line which represented
19 all of our brands and all of our blends. We tested
20 smoke pH, and the results showed that -- a number of
21 things. Number one was that the pH of all of our
22 products was very low, and if one uses the
23 Henderson-Hasselbach equation to make an estimate of
24 the ratio of un-ionized to ionized nicotine, one
25 would not draw a conclusion that any significant

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 amount of nicotine was in fact ionized. We didn't
2 see any indication of a relationship between those
3 ingredients that used ammonia-related ingredients or
4 different levels of ammonia-related ingredients to
5 pH, and we also didn't see any relationship between
6 the pH of cigarettes and the deliveries of nicotine
7 into smoke as measured by the FTC method.

8 What we found was is that the pH seemed to be
9 related primarily to the types of tobacco used;
10 namely, flue-cured tobacco. We had -- We also had
11 some reference cigarettes, we had an all flue-cured
12 cigarette, an all-burly cigarette and a Kentucky
13 reference cigarette, and what it showed was that
14 flue-cured was -- delivered smoke of the lowest pH,
15 burly of the highest and the blended cigarette was
16 somewhere sort of in the middle, and all of our
17 cigarettes being blended were all somewhere in the
18 middle, and seemed to be related to the types of
19 tobaccos used in the blend.

20 Q. Is this the work that you describe that was done
21 about six months ago by Joe Dong and others?

22 A. Yes.

23 Q. Has that research been written up?

24 A. Yes.

25 Q. Has it been produced in the Minnesota

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 depository?

2 A. I don't know.

3 MR. McGAAN: Object, no foundation.

4 MS. WIVELL: Counsel, I would ask that that
5 research be provided to us as soon as possible, and I
6 would ask that it be provided directly to us at -- at
7 Robins, Kaplan and not to the depository where it may
8 be held up in an unverified box for months.

9 BY MS. WIVELL:

10 Q. Sir, is this more than one research project or
11 report that you have just been talking about?

12 A. Well it's -- Actually it was done in two
13 stages. One is we looked at -- we were interested in
14 getting information fairly rapidly, and so we started
15 by looking at blends that were used in all of our
16 products. And then we set out to actually measure
17 all of the brand styles, which are I think well over
18 a hundred. The blends are not that many.

19 So we took it in two stages. Stage one, what is
20 the smoke pH of cigarettes that employ all of the
21 blends that we use, and then finally we then extended
22 that to all of the actual brand styles that we have.

23 Q. What was the cause of you trying to determine
24 this relatively quickly or "fairly rapidly," as you
25 say?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. I think we were just in a hurry to get the data
2 to understand our products as quickly as possible
3 because of all the various types of allegations that
4 were being made, and also it wasn't so much of a
5 hurry, it was a resource issue. We knew that X
6 number of samples would have to be done, we knew that
7 we had so many lab techs to do it and that -- we said
8 okay, if we do X number of samples, how long will it
9 take? So we -- we sort of staged it, we said let's
10 do step one and step two.

11 Q. Sir, were these tests run in response to
12 allegations that were made in this lawsuit?

13 A. No.

14 Q. Well sir, correct me if I'm wrong, but didn't
15 allegations regarding spiking of nicotine and
16 intentional alteration of nicotine in cigarette smoke
17 come up before the Waxman hearing a couple of years
18 ago?

19 A. I don't know if it was before the Waxman
20 hearing. My understanding, it was around the same
21 time, and it may have actually occurred during the
22 Waxman hearings.

23 Q. All right. But you waited until this year in
24 order to do this work; is that right?

25 MR. McGAAN: Object, mischaracterizes.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Well, as I indicated, we were doing the
2 underlying research of what was already existing. I
3 mean, we were doing research of existing reports that
4 were in our files, and reviewing that.

5 Q. Well just so we're clear here, when was the
6 Waxman hearings?

7 A. I believe '94.

8 Q. And you would agree Brown & Williamson has a
9 computer-accessible library of its prior research;
10 right?

11 A. Yes.

12 Q. And your testimony is it took you three years to
13 analyze the underlying research that had previously
14 been done at Brown & Williamson on the subject of
15 nicotine -- or ammonia technology; is that right?

16 MR. McGAAN: Objection. That's not what he
17 testified.

18 A. We were doing a lot of things simultaneously,
19 and that was one thing that we were doing. We -- We
20 had a certain amount of resources to put to the
21 issue, and they were being divided up to cover a lot
22 of different areas. So it's not like we had 100
23 percent of our resources devoted to this. This was
24 one thing that we were doing amongst many, many other
25 things.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Sir, isn't it a fact that the research that you
2 described that Joe Dong did, along with others, was
3 motivated by attorney generals' lawsuits?

4 A. No.

5 MR. McGAAN: Objection, mischaracterizes.

6 A. It was motivated primarily I would say, if more
7 than anything the Wall Street Journal article that
8 made -- where all these allegations became public.

9 Q. Well sir, these allegations were made public
10 back in 1994 with the Waxman hearings, weren't they?

11 MR. McGAAN: Object, asked and answered.

12 A. I believe some of them were.

13 Q. Well did you undertake, back in 1994, to try and
14 determine the smoking pH of your various marketed
15 cigarettes?

16 A. Well we did by looking at exist -- We began our
17 research by looking at existing data.

18 Q. Sir, I'm not talking about a research or a
19 literature review. I'm talking about actual bench
20 science. That's what Joe Dong and others did;
21 right?

22 MR. McGAAN: Objection, compound and
23 mischaracterizes the testimony with regard to the
24 literature review.

25 A. What are you asking me?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. All right. Joe Dong and others did actual bench
2 science, didn't they?

3 A. Yes.

4 Q. And no bench science was done in the period from
5 1994 to 19 -- the beginning of 1997 on the -- on the
6 subject of the smoke pH of B&W's marketed cigarettes;
7 right?

8 A. There may have been tests that were run. The
9 way these -- these analyticals are requested, it's up
10 to the individual product developer to determine
11 which analyticals they want. And so I'm not saying
12 smoke pH measurements were not made during that time,
13 what I'm saying is we didn't set out to design a
14 study specifically to address the issue; however,
15 there were many other reports that were available
16 from prior bench experiments that provided
17 information about whether or not ammonia may alter
18 smoke pH.

19 Q. All right. Just so we're clear here, are you
20 saying that the study that Joe Dong did was
21 specifically designed to address the issue of whether
22 Brown & Williamson intentionally alters the nicotine
23 in its cigarette smoke to enhance nicotine-transfer
24 efficiency?

25 A. No, that's not --

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 MR. McGAAN: Object.

2 A. -- what the objective of Joe Dong's experiment
3 was.

4 Q. What was the objective of his experiment?

5 A. Basically to survey the pH of smoke from our --
6 all of our products.

7 Q. Who ordered that research to be done?

8 A. I don't know who ordered it. I know I suggested
9 it, it's something that we ought to do.

10 Q. When did you suggest that?

11 A. I don't remember the exact time.

12 Q. I understand that you probably don't remember
13 the exact date. What is your best recollection of
14 the approximate time when you suggested that
15 research?

16 A. I don't remember. Maybe, let's say, six to nine
17 months ago. Maybe a year ago. I -- I don't
18 remember.

19 Q. Not earlier than a year ago though; right?

20 A. Not to my recollection.

21 Q. All right. Is there any other research that has
22 been done to address this issue specifically since
23 the Waxman hearings?

24 A. That's -- That's the major research that I'm
25 aware of.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Were there written objectives for this research
2 that was eventually done by Joe Dong?

3 A. There may be. I'd have to review the reports to
4 refresh my memory if there is an objective statement
5 or not.

6 Q. Is there one report or more than one report?

7 A. There's more than one report.

8 Q. How many reports are there, sir?

9 A. There's two reports that report the data and
10 there's one report concerning some -- the development
11 of a analytical method that -- that was suitable for
12 doing this test.

13 Q. Are those documents referred to in your reliance
14 list that's attached to Exhibit 4400?

15 A. I don't believe so.

16 Q. Are there any other documents concerning this
17 research that exist?

18 A. The ones that I mentioned are the ones that I
19 can remember.

20 Q. All right. Did you write any memo concerning
21 your suggestion that this research occur?

22 A. No.

23 Q. Did anyone else write any memos concerning this
24 research?

25 A. Not that I'm aware of.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Were reports --

2 Were the two reports sent to any lawyers before
3 they were finalized?

4 A. I don't believe so.

5 Q. Were there any drafts of the reports made?

6 A. I don't know.

7 Q. Who directed the research?

8 A. I don't know who directed it. I'm not sure what
9 you mean by "directed it." It was something that was
10 being talked about. As we, you know, looked at the
11 issue, you know, we sort of just evolved into saying,
12 you know, one way to address this thing might be to
13 do this sort of an experiment, and we talked about
14 it, and I discussed it with my boss, and he agreed,
15 and so we said, yeah, okay, let's do it.

16 Q. Who was your boss that you discussed this
17 research with?

18 A. Tilford Riehl.

19 Q. And what is his position?

20 A. He's vice-president of research and development.

21 Q. At Brown & Williamson.

22 A. Yes.

23 (Plaintiffs' Exhibit 4405 marked for
24 identification.)

25 BY MS. WIVELL:

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Sir, showing you what's been marked as
2 Plaintiffs' Exhibit 4405, it begins with the Bates
3 number 100575013; right?

4 A. Yes.

5 Q. And we see from the second page of the document
6 that it's entitled "THE BURNING CIGARETTE"; right?

7 A. Yes.

8 MR. McGAAN: Do you have a copy that makes
9 the cover at all legible? Some of -- There's
10 information on the cover sheet that I can read some
11 of it but not all of it.

12 MS. WIVELL: This is the best we got from
13 B.A.T., sir.

14 Q. Let me ask you this, sir. Has any research
15 been --

16 MR. McGAAN: Actually, I don't think so.
17 Well, why don't you go on. I've seen this document
18 before, though, and there are clearer copies of
19 this.

20 MS. WIVELL: Well I would appreciate
21 receiving one if there is one.

22 MR. McGAAN: I got it out of the Minnesota
23 depository, counsel, but I'd be happy to give you my
24 copy -- I don't have it with me today but if -- it is
25 clearer than this, and I can't remember what it says,

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 and I will send you a clearer copy that I got out of
2 the depository.

3 MS. WIVELL: Thank you, I would appreciate
4 it.

5 BY MS. WIVELL:

6 Q. Now sir, before we turn to this document, let me
7 ask you this question. Has any research been done at
8 Brown & Williamson that addresses the issue of the
9 speed at which nicotine is absorbed in the human body
10 after it is inhaled with a puff of cigarette smoke?

11 A. When you say "Brown & Williamson," do you
12 include any of its affiliates?

13 Q. I do, yes, sir.

14 A. I've seen one report that attempts to measure
15 and relate a physiological response with what was
16 thought to be -- well tried to relate a physiological
17 response with a sensory response, and I believe the
18 theory -- and that the physiological -- the sensory
19 response was impact, and the physiological response
20 that was being measured was heart rate.

21 And I believe the assumption was is that heart
22 rate would be a reflection of extent of absorption
23 and speed of absorption and the -- I think the theory
24 was trying to determine whether or not impact was
25 related to absorption of nicotine, and -- and this is

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 an old study, this goes back maybe even to the '60s,
2 but I think it might be more the mid-'70s -- and I
3 recall the conclusions were that they didn't seem to
4 see any correlation at all between the physiological
5 measure that they were measuring and the sensory
6 attribute of impact, and drew a number of conclusions
7 basically saying we don't think impact is related to
8 the form of nicotine, the speed of nicotine
9 absorption, the amount of nicotine absorption, a
10 number of other things. But I know the conclusion
11 was clearly drawn in this research report, and it was
12 one that -- that was among the things that were cited
13 in the FDA's analysis of the issue.

14 Q. Had you read it before the FDA cited it?

15 A. No.

16 Q. But you have now read it; right?

17 A. Yes.

18 Q. Sir, could you turn to the page of Exhibit 4405
19 that ends with the Bates number 5023.

20 A. Yes.

21 Q. Before we go any further with the document, let
22 me ask you, is the study that you're referring to a
23 BATCo study?

24 A. I believe so.

25 Q. Is there any other research that has been done

1 at Brown & Williamson or any of its affiliate
2 companies on the speed at which nicotine is inhaled
3 -- I'm sorry, strike that.

4 Is there any other research that has been done
5 at B&W or any of its affiliate companies that
6 addresses the issue of whether nicotine, in one form
7 or another, is more readily absorbed through body
8 tissues?

9 A. Not that I recall. Not that I'm aware of.
10 There may have been but, you know, there's so much
11 research done that it's quite possible there's
12 something out there I haven't seen or something I may
13 have seen and don't recall.

14 Q. But to the best of your knowledge you went back
15 and tried to find what research had been done?

16 MR. McGAAN: Object. On this issue
17 specifically?

18 MS. WIVELL: Yes, sir.

19 A. Yes, I -- Well the process was basically
20 involved when the FDA published its proposed
21 rulemaking, I reviewed that, and they -- in that a
22 number of B.A.T. documents were referred to, and so I
23 attempted to collect all of those documents and
24 review them.

25 Q. Did you attempt to make any, or did you make any

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 effort to obtain all of the documents that Brown &
2 Williamson, BATCo or B.A.T. had on the subject?

3 A. Yes.

4 Q. How did you do that, sir?

5 A. I did it by contacting the person who works for
6 I believe an outside law firm in Louisville who
7 manages all of our records and all of our stored
8 documents and so forth and just told him, I said
9 look, I want all these documents so --

10 Q. Who was that?

11 A. A guy named Ernest Clements. So sometime later
12 a very large box appeared in my office.

13 Q. Full, wasn't it?

14 A. It was quite full.

15 Q. And it contained documents not only from Brown &
16 Williamson but also from BATCo; right?

17 A. Yes.

18 Q. You reviewed all those documents.

19 A. Yes.

20 Q. Is there anything else that you did to try and
21 determine that you had all of the documents?

22 A. A lot of the research that -- that I reviewed in
23 connection with this deposition or this -- this case
24 is B.A.T. research, BATCo research and may or may not
25 be related to that, and I reviewed that research. I

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 don't know if I reviewed all of it, but I certainly
2 reviewed a lot of it.

3 Q. Did you review those documents in preparation
4 for this deposition, sir?

5 A. Many --

6 MR. McGAAN: Object, vague as to which set
7 of documents you're talking about. We've now had
8 testimony about two sets.

9 A. Many of the documents I reviewed in preparation
10 for this deposition, but there was, it turns out, a
11 great overlap between the documents that -- that I
12 reviewed for this deposition and also the ones that
13 were cited in the FDA's notice of rulemaking, plus
14 over the years I've also just happened to review a
15 lot of other documents that were -- that was overlap
16 between the two things.

17 So I've looked at a lot of documents over the
18 years in a lot -- connecting with a lot of -- in
19 connection with a lot of activities, some of it just
20 things that I found or came across in the library
21 through searching, things that were brought to my
22 attention by various people, things in connection
23 with various actions like the FDA's proposed
24 rulemaking, things that may have been in connection
25 with a particular lawsuit, but I've -- the bottom

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 line is I've reviewed a lot of B.A.T. research in
2 connection with a lot of activities over the last
3 couple of years.

4 MR. McGAAN: Do you mean "BATCo" when you
5 say "B.A.T."?

6 A. I'm sorry, I do mean "BATCo."

7 Q. Because typically in the vernacular at Brown &
8 Williamson when someone says BAT or B-A-T they're
9 referring to B.A.T. Industries PLC; right?

10 MR. McGAAN: Objection, objection.

11 A. No, typically it's the other way around.

12 MR. McGAAN: Objection, that is vague and
13 calls for speculation.

14 A. Typically we really mean BATCo. We have our
15 most interaction with BATCo, we -- I don't know if
16 I've ever had any direct interaction with B.A.T.
17 Industries.

18 Q. Now sir, you were prepared to talk about these
19 documents that you reviewed at this deposition today;
20 is that right?

21 MR. McGAAN: Objection, vague as to which
22 documents.

23 A. Which documents?

24 Q. The ones that you collected or had Mr. Clements
25 collect.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. I can talk about those if you wish.

2 Q. Did you prepare to talk about them?

3 A. Well it's hard to say. As I said, there's a lot
4 of documents that are relevant to this litigation,
5 and I reviewed those. Those documents I reviewed I
6 guess back in '94. No, I reviewed them when -- when
7 did the FDA publish its proposed rulemaking?
8 Whenever they published it.

9 MR. McGAAN: August of '95.

10 A. August of '95.

11 So many of those documents that were there were
12 things that are relevant to this particular action.
13 I've also reviewed things since then that are more
14 specifically related to this particular action, and
15 I've reviewed documents over the years that weren't
16 necessarily related to any particular action, just
17 came across them through my normal activities.

18 Q. All right, sir. Showing you what's been marked
19 as Exhibit 4405, I've had you turn to the page that
20 ends with Bates number 023.

21 A. Right.

22 Q. It says there, when a cigarette is smoked,
23 nicotine is released momentarily in the free form.
24 In this --

25 A. Okay. Let me just find where you're reading.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Okay. I see it. Middle of the third paragraph.

2 Q. Well it's actually the middle of the first
3 complete paragraph, sir.

4 A. Okay.

5 Q. Sir, do you see there it says, "When a cigarette
6 is smoked, nicotine is released momentarily in the
7 free form. In this form nicotine is more readily
8 absorbed through the body tissue"?

9 A. Yes, I see that sentence.

10 Q. All right. And what work --

11 Do you agree with that, sir?

12 A. I don't know whether or not when a cigarette is
13 smoked nicotine is released momentarily in the free
14 form. My understanding is that the form that it's in
15 is dependent on the pH of the media in which it's
16 contained, which would be smoke. So I don't know if
17 I can agree or disagree with this particular
18 statement, the first one.

19 Now the second statement, "In this form the free
20 form nicotine is more readily absorbed through the
21 body tissue." Then again, I've also looked at this
22 issue, and there certainly is a lot of literature
23 concerning the absorption of various substances
24 through the gastrointestinal tract and the digestive
25 system, and that the free form or the un-ionized or

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 the neutral form is more readily absorbed than the
2 ionized or the nonneutral form, but when it comes to
3 inhalation of substances -- and I've gone into the
4 toxicological literature to review this -- it's a lot
5 less clear, and what seems to be more important is
6 the -- if it's a particle, the particle size; if it's
7 a gas it seems to be the oil-water partitioning
8 coefficient, and pH doesn't seem to be a primary
9 determinant of absorption of things by the
10 respiratory tract.

11 Q. And what do you rely on -- what evidence do you
12 rely on for that?

13 A. A couple of things. I reviewed a couple of
14 standard toxicology textbooks, like Casarett & Doull,
15 and I forgot -- one other one I forgot the name of
16 it. But I've also read some literature by
17 Henningfield, Jack Henningfield, Neal Benowitz, and
18 I've seen them make statements to the effect that
19 nicotine absorption in the lung, in the respiratory
20 tract is not dependent on the pH of the smoke.

21 THE REPORTER: We have to go off the record
22 and change tape.

23 (Recess taken from 11:04 to 11:17 a.m.)

24 BY MS. WIVELL:

25 Q. Sir, had you told us all of the sources that you

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 were relying on for your opinion that nicotine is not
2 more readily absorbed in the free form than the bound
3 form?

4 A. No, there is one other study that I was
5 referring to. This is not an internal study, it's an
6 external study. It was one that -- It was the only
7 study I could find that seemed relevant to this
8 issue. I did research the open, published literature
9 to see if there was anyone who had ever published a
10 study attempting to relate smoke pH to nicotine
11 absorption, I didn't find one, but I did find a study
12 where someone -- where some investigators created a
13 nicotine aerosol. They essentially took nicotine and
14 dissolved it in water, and they tested the effect of
15 various pH's on the absorption of nicotine. And so
16 they actually took blood samples, measured the amount
17 of nicotine appearing in the blood over a period of
18 time, and this is referred to as a pharmacokinetic
19 study, and the pH's that they used, I don't remember
20 exactly so I may need to -- this would be subject to
21 correction, but basically there were three pH's that
22 were measured. One is pH 5.5, which is roughly about
23 the pH that cigarettes are; the other one I think was
24 I think 7.5, and I think the other one was around
25 11.5, so quite high. And they presented their data

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 -- And what they did is present these aerosols to
2 people and they inhaled the aerosols and measured how
3 much nicotine was being absorbed.

4 And what they found was that there was no
5 observed difference, no significant difference
6 between the aerosol at pH 5.5 and 7.5 in terms of
7 total amount absorbed or the rate or speed of
8 absorption. They did find a slight increase in
9 absorption at 11.5, but this pH range, 11.5, was well
10 outside the range you'd ever see in a cigarette. In
11 fact 7.5 is outside the range you would expect to see
12 in a typical blended cigarette. So again that --
13 that source of information also tended to suggest
14 that pH really doesn't matter when it comes to
15 absorption of nicotine by the respiratory tract.

16 So collectively all these things indicate that,
17 plus the surgeon general in his report in 1988
18 indicated that nicotine is absorbed so readily by the
19 respiratory tract, it's so complete because the pH of
20 the respiratory tract is 7.4, that -- well, because
21 of two things: Because you have such a large surface
22 area of the alveoli, and because the body itself is
23 pH 7.4, indicating that that would probably have the
24 effect of converting whatever -- whatever the
25 nicotine was in the aerosol, when it hits the mucus

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 membranes of the alveoli that that pH will then
2 control things from that point on, that nicotine
3 absorption was virtually complete anyway, so pH
4 doesn't seem to have any -- any great effect.

5 So collectively all that says to me, that I
6 don't see where the -- my personal view is that the
7 -- the pH range that occurs within typical U.S.
8 blended cigarettes is not likely to influence the
9 speed of nicotine absorption.

10 Q. So essentially you disagree with the statement
11 that's made in Exhibit 4405 that we read into the
12 record that's on page 023; right?

13 A. Yes. I don't -- The evidence that I've reviewed
14 does not support that statement.

15 Q. All right. And have you now told me all the
16 evidence that you reviewed that you're relying on?

17 A. All that I can remember.

18 Q. All right.

19 A. Those are the major things.

20 Q. None of those things are referred to in your
21 expert report, are they?

22 A. I mention the surgeon general's report, 1988. I
23 don't remember if that's in there. Would you like to
24 refer to it and see if it is?

25 Q. Well putting that one aside, are any of these

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 other sources, the Benowitz, the --

2 A. Henningfield.

3 Q. -- Henningfield --

4 A. The other study, forgot the author, it may have
5 been Burn or Birch, one of the two.

6 Q. And what publication was it in, sir?

7 A. I forgot.

8 Q. What year?

9 A. It was recent, and I forgot that, too. May of,
10 I don't know, maybe '94, '93.

11 (Interruption by the reporter.)

12 A. Maybe 1994 or '93, but I don't remember. I'd
13 have to go back and reconfirm that.

14 Q. This Burn or Birch recent study, that's the
15 external study that you mentioned from the open
16 literature that looked at the nicotine aerosols at
17 the three different pH levels?

18 A. Yes.

19 Q. Is there anything else that you rely on for your
20 disagreement with the statement that when a cigarette
21 is smoked nicotine is released momentarily in the
22 free form, in this form nicotine is more readily
23 absorbed through the body tissue?

24 A. I think you mischaracterized that. The first
25 part of the sentence, when a cigarette is smoked

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 nicotine is released momentarily in a free --

2 (Interruption by the reporter.)

3 A. The first part of the sentence I believe my
4 answer was: I don't know if that's true or not, I
5 don't believe it is, and that my belief is that the
6 form that it's in would be dependent upon the pH of
7 the medium -- media in which it's carried; namely,
8 smoke. It's the second statement that I cited these
9 various sources as my primary basis of disagreeing
10 with the second statement; namely, in this form
11 nicotine is more readily absorbed through body
12 tissue.

13 Q. All right. In your disagreeing with the
14 statement "in this form nicotine is more readily
15 absorbed through the body tissue," did you consider
16 work that had been done by any of the other cigarette
17 manufacturers in the United States?

18 A. No.

19 Q. Just so we're clear, did you consider any work
20 done by any American cigarette manufacturers if it
21 was outside the United States?

22 A. No.

23 Q. Did you consider any internal memos from any of
24 the other cigarette manufacturers?

25 A. No.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Have you seen any other internal memos
2 concerning the subject of the rate of nicotine
3 absorption from any other -- I'm sorry, I lost it.
4 Let me rephrase that question.

5 Have you seen any internal memos concerning the
6 subject of the rate of nicotine absorption by any
7 other employees of any American cigarette
8 manufacturers?

9 A. Yes.

10 Q. Whose memos have you seen?

11 A. I saw two memos that came from -- apparently
12 from Philip Morris.

13 Q. One was -- Both of them are to Cathy Ellis;
14 right?

15 A. I think they might have been.

16 Q. When did you see those?

17 A. Three or four months ago.

18 Q. And how did you come to review those documents?

19 MR. McGAAN: Let me object. You've got to
20 be cautious if your answer to questions like this one
21 involve disclosure of communications with lawyers
22 representing the company. If you can answer it
23 without disclosing privileged communications of that
24 kind, go ahead.

25 A. Okay. They were given to me by my attorneys.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Lawyers representing Brown & Williamson?

2 A. Yes.

3 Q. Do you have any opinions about the content of
4 those documents? By the way, one is an attachment to
5 the other, isn't it?

6 A. I don't remember.

7 Q. All right.

8 A. It's been a couple of months.

9 I -- I can't be specific. I'd have to have
10 those documents in front of me to be specific. I do
11 remember I did not agree with everything that was
12 represented. I do remember also I --

13 Actually, I don't think I really ought to talk
14 about it because I just don't remember the details
15 and there's a good chance I might misrepresent the
16 content of those memos if I attempt to do it.

17 Q. Well sir, there was data included in -- Strike
18 that.

19 There was information included in those memos
20 concerning the relationship between the form of
21 nicotine and its rate of absorption; right?

22 MR. McGAAN: I object. I think in light of
23 the statement he just made, that calls for
24 speculation, it might be unfair.

25 A. I don't remember. My recollection is that there

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 were theories being presented much the same as you
2 see theories being presented in BATCo documents and
3 Brown & Williamson documents, but I really don't
4 remember what -- what was the substance and the basis
5 of the statements being made.

6 Q. But just so we're clear here, since this issue
7 concerning whether the form of nicotine relates in
8 any way to its rate of absorption has arisen, has
9 Brown & Williamson done any research on that
10 subject?

11 MR. McGAAN: Object. I think we've been
12 over this, but you can answer it again.

13 A. Well in my view the research that I was involved
14 in; namely, reviewing internal historical documents
15 concerning smoke pH and the -- the tests that we did
16 on all of our brands measuring smoke pH was related
17 to that. It wasn't a biological test, but it was a
18 test of a central assumption upon which this entire
19 theory rests.

20 Q. All right.

21 MS. WIVELL: For the record, I would like
22 to include in my request for documents that I made
23 this morning the two reports and the one document
24 concerning the study which the witness has referred
25 to in his testimony this morning.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 MR. McGAAN: I -- I don't know what you're
2 talking about.

3 THE WITNESS: Which study?

4 MR. McGAAN: Just -- I'm honestly confused
5 about what you're asking for.

6 MS. WIVELL: Pardon me?

7 MR. McGAAN: I'm honestly confused about
8 what you're asking for.

9 MS. WIVELL: All right. Well I think he
10 testified that -- in response to my questions that
11 there have been two reports written concerning the
12 study done by Joe Dong and others, and also one
13 document that was written concerning that study.
14 Q. Is that a fair description of the documents that
15 have been written about this study that was done by
16 Joe Dong?

17 A. I think you might be referring -- I think I
18 referred to another document that -- that described
19 basically the analytical procedure that was used, the
20 method itself. It wasn't a test of the brands, but
21 the analytical method applied to the measurement of
22 the -- of smoke pH.

23 Q. All right. So would it be fair, sir, to say
24 that there have been three documents that have been
25 generated about this study that was done by Joe Dong?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Yes.

2 Q. All right.

3 MS. WIVELL: We would like to have those
4 documents produced to us as soon as possible.

5 BY MS. WIVELL:

6 Q. Sir, when you did your analysis of the
7 literature, did you make any notes?

8 A. No. I mean -- I may have made notes, but I
9 didn't keep any notes. If I did, I threw them away.

10 Q. Well sir, when you looked back over the
11 documents that Mr. Clements brought to you, did you
12 make any notes?

13 A. I made highlights.

14 Q. On the documents.

15 A. Yes.

16 Q. Did you keep any notes other than that?

17 A. No, no.

18 Q. Did you keep a computer record of your thoughts
19 concerning those documents?

20 A. There were drafts that were made -- Yeah, I
21 did. I generated some -- some notes that went --
22 ultimately were used to develop a response to the FDA
23 notice.

24 Q. And have those documents been produced in the
25 Minnesota depository?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. I don't know.

2 MR. McGAAN: Object, lacks foundation.

3 MS. WIVELL: I would appreciate receiving a
4 copy of those notes, in addition to the other
5 documents.

6 MR. McGAAN: I'm not -- Just so you can
7 keep rolling, I'm not going to respond to these
8 requests on the record, and specifically with respect
9 to the FDA response, we may be implicating work
10 product and privilege issues, but I'll give you a
11 response at another time.

12 BY MS. WIVELL:

13 Q. All right, sir. Just so we're clear, when
14 you're talking about the response to the FDA, what
15 are you referring to?

16 A. B&W prepared a response to -- as part of the
17 notice and comment period, a response.

18 Q. Okay. Would it be fair to say this is a
19 response to the -- a proposed rulemaking that --

20 A. Yes.

21 Q. -- the FDA had --

22 A. Yes.

23 Q. -- published in the Federal Register?

24 You have to let me finish, sir.

25 A. I'm sorry.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Okay.

2 Brown & Williamson made a formal response on the
3 issue that we've been talking about.

4 A. Yes.

5 Q. And are your opinions summarized in that formal
6 response?

7 MR. McGAAN: Object, vague.

8 A. Some of them.

9 Q. When was this formal response prepared?

10 A. I believe -- Well it was shortly -- not
11 "shortly," some time after the publication of the
12 proposed rulemaking, which Andy indicated was in
13 1995, so I assume this was done either late in '95 or
14 early '96.

15 Q. Sir, why wasn't the work that was eventually
16 done by Joe Dong this year done before Brown &
17 Williamson sent in its response to the FDA's proposed
18 rulemaking?

19 MR. McGAAN: Object to the extent it may
20 call for speculation.

21 A. I don't know.

22 Q. Just so we're clear here, you would agree that
23 -- Strike that.

24 The proposed rulemaking that we're talking about
25 is where the FDA asserted that it had a right to

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 control cigarettes as a drug; right?

2 A. Yes.

3 Q. Have you reached any opinions or come to any
4 conclusions regarding the effect of the diameter of a
5 cigarette with regard to nicotine transfer?

6 A. No, I haven't seen any data or any indication
7 specifically about a possible role of cigarette
8 diameter.

9 MR. McGAAN: Put in a late objection:
10 Vague as to "nicotine transfer."

11 Q. Sir, have you come to any conclusions concerning
12 the importance of pressure drop with relationship to
13 nicotine transfer?

14 MR. McGAAN: Same objection.

15 A. No, I haven't.

16 Q. Have you come to any conclusion regarding the
17 effect of tow deniers to nicotine transfer?

18 MR. McGAAN: Same objection as to the whole
19 question.

20 A. No, not specifically. All the things you
21 mention are going to affect smoke deliveries and
22 therefore the transfer of everything that's in smoke,
23 including nicotine, but not specifically as it
24 relates to nicotine transfer.

25 Q. All right.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. But I'm not sure, as my counsel indicates, I'm
2 not sure what you mean by "nicotine transfer." Do
3 you mean just the amount of nicotine that occurs in
4 smoke, nicotine-transfer efficiency as separate from
5 tar?

6 Q. Well the form or the amount of nicotine that's
7 transferred in cigarette smoke.

8 MR. McGAAN: Same objection.

9 A. I think all of those things can have an effect
10 on delivery, smoke delivery.

11 Q. All right. How does pressure drop affect
12 nicotine delivery?

13 A. That one in particular, I don't know.

14 Q. All right. How about --

15 By the way, what do you understand "tow deniers"
16 to be?

17 A. The -- I may be wrong on this, not my area, but
18 the diameter of the fibers used to construct filter
19 tow material, and the -- how tightly they're
20 compacted, compressed within the matrix of the
21 cellulose acetate fiber material.

22 (Interruption by the reporter.)

23 Q. Do you have any or have you arrived at any
24 conclusions about the effect of tow deniers on
25 nicotine delivery?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Only a general impression. It's not, again, not
2 my area, but I would expect that the more tightly
3 packed and the smaller diameter the fibers, that the
4 greater the efficiency that you would have at
5 filtering out smoke constituents, including nicotine.

6 Q. Have you researched that so that you could
7 express it as an expert opinion?

8 A. No.

9 Q. Have you looked at the issue of pressure drop
10 and its relationship to nicotine to the point where
11 you could express an expert opinion on that?

12 A. No.

13 Q. Have you looked at the subject of diameter of
14 cigarettes in order to be able to speak
15 authoritatively on that subject?

16 A. No.

17 Q. Now in addition to tow deniers, the choice of
18 tow materials, does it have anything to do with
19 nicotine delivery in the smoke?

20 A. I would think that it could. I mean, I've seen
21 some experimental evidence that suggests that the
22 nature of the tow material -- Well I'm sorry, it
23 wasn't the nature of the tow material, it was
24 something else. No.

25 Q. All right. No, the nature of the tow materials

1 don't have anything to do with nicotine delivery; is
2 that --

3 A. No, I am not an expert or have not seen anything
4 specifically that would provide any indication to me
5 about what the effect might be.

6 Q. All right.

7 A. I'm not saying it doesn't do it; I'm saying I'm
8 not aware.

9 Q. You just don't know one way or the other, do
10 you?

11 A. No. I mean, not in an expert way. I can
12 speculate, but I prefer not to.

13 Q. All right. By the way, how do you define the
14 word "tow"? To what do you refer when we use that?

15 A. Cellulose acetate fiber that's used to construct
16 filter material.

17 Q. Is there anything about the paper that's used in
18 Brown & Williamson's cigarettes that affects nicotine
19 delivery?

20 A. Potentially papers could influence the total
21 burn rate of the cigarette, and if the burn rate is
22 faster you will get less puffs when you measure
23 deliveries on the FTC smoking -- under the FTC
24 smoking regimen. On the contrary, if the paper is
25 such that the burn rate is slower, you'd get more

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 puffs because there would be less smolder between
2 puffs, so you get more puffs and so deliveries would
3 go up.

4 Q. Sir, when a person inhales a cigarette, does the
5 material that's inhaled go to all parts of the lung?

6 A. I don't know if it goes to all parts. There's a
7 lot of materials. Smoke is not a homogeneous thing,
8 it's a mixture of gases and particles, and I'm not
9 sure if anyone knows every place that all those
10 things go.

11 Q. Have you ever looked at any research that
12 addresses that issue as to whether smoke gets --
13 pardon me -- whether the material that's inhaled as a
14 result of a cigarette puff goes to all parts of the
15 lungs?

16 A. I have seen some studies that look at particle
17 retention. Typically it's looking at just total
18 retention, the amount that's retained by the lungs.
19 I don't recall specifically something that has looked
20 at the specific areas of the lung that it went to. I
21 think I may have reviewed something along that line
22 but I don't have recollection of it right now that I
23 could talk specifically about it. Mostly what I've
24 seen are studies that just try to -- try to describe
25 total particle retention.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Can you direct me to any research that's been
2 done by B&W or BATCo that would indicate that there
3 is a dead area in the lungs which do not receive any
4 particles when a cigarette smoke is puffed?

5 A. No, I can't think of anything like that.

6 Q. And to the best of your knowledge, when a smoker
7 inhales a puff of cigarette smoke the particles go to
8 all parts of the lungs; right?

9 MR. McGAAN: Object, asked and answered.

10 A. I think that would depend on the size of the
11 particles. I've got no reason to confirm or deny
12 where the smoke may go. It may go to all parts of
13 the lung, it may not, I just don't know.

14 Q. Well focusing on the size-of-the-particle issue,
15 is there any research that you're aware of that would
16 demonstrate that a particular particle size goes to a
17 particular part of the lung?

18 A. Generally larger particles tend to deposit in
19 the upper respiratory tract, smaller particles are
20 more likely to have access to the lower parts of the
21 respiratory tract.

22 Q. Is unbound nicotine a larger or a smaller sized
23 molecule than bound nicotine?

24 A. I don't really know. I'd have to speculate. I
25 would assume that so-called unbound would be smaller.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

- 1 Q. That's because it has fewer ions, doesn't it?
- 2 A. Protons.
- 3 Q. Pro -- Let me rephrase the question.
- 4 That's because --
- 5 A. It was close.
- 6 Q. You would assume that unbound nicotine is a
- 7 smaller particle because it has fewer protons than
- 8 bound nicotine; right?
- 9 A. Yes.
- 10 Q. Just so we're clear here, nicotine which is
- 11 inhaled through cigarette smoke by a smoker is in
- 12 particulate form, isn't it?
- 13 A. Primarily, yes. Almost exclusively.
- 14 Q. Pardon me.
- 15 You mentioned that generally larger particles
- 16 tend to deposit in the upper respiratory tract and
- 17 smaller particles are more likely to have access to
- 18 the lower parts of the respiratory tract. You're
- 19 referring to human beings with that answer, weren't
- 20 you, sir?
- 21 A. I believe that's the case with both human beings
- 22 and animals.
- 23 Q. And --
- 24 A. Of course it depends on the particular anatomy
- 25 of the host that you're talking about.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. What research are you referring to in support of
2 your answer that generally larger particles tend to
3 deposit in the upper respiratory tract and smaller
4 particles are more likely to have access to the lower
5 parts of the respiratory tract?

6 A. Mostly just general toxicological literature and
7 pharmacology literature. When you take courses in
8 this and you're in the part of the course where they
9 describe absorption of materials, one of the first
10 things that they teach you is that large particles
11 tend to get deposited in the upper respiratory tract,
12 the small particles tend to get deposited in the
13 lower parts of the respiratory tract. I'm not -- I
14 don't have a specific article in mind. It's just
15 sort of general knowledge that's taught in courses
16 that you take in pharmacology and toxicology.

17 Q. Sir, has Brown & Williamson ever done any
18 research on the issue of whether smaller particles
19 are deposited in the lower respiratory tract, whereas
20 larger particles tend to be deposited in the upper
21 respiratory tract?

22 A. Not that I -- Not that I'm aware of.

23 Q. Has BATCo ever done any research in that area?

24 A. Not that I'm aware of, but I was thinking you
25 meant BATCo in that answer -- my previous answer.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Well just -- I just want to make sure that we're
2 clear.

3 Have any of the associated companies with Brown
4 & Williamson ever done any research that focuses on
5 where a nicotine particle of a particular size might
6 go in the human lung?

7 A. Not that I'm aware of.

8 Q. If I were to try and find some of this general
9 toxicological research that you referred to on --
10 that focused on the issue of where particles of
11 various sizes go, to what books would you refer me,
12 sir?

13 A. Well one might be Casarett & Doull, it's a
14 standard toxicology textbook. Another one would be
15 Patty's Industrial Hygiene, and parts of Patty's
16 Industrial Hygiene deal with fundamental issues about
17 chemical absorption, distribution, metabolism,
18 toxicology. I would think any pharmacology textbook,
19 you know, one of the beginning chapters is going to
20 be absorption, metabolism, distribution of
21 substances, it'll discuss there. I would say in
22 virtually any textbook on either toxicology or
23 pharmacology or industrial hygiene, for that matter,
24 would have discussion about that.

25 Q. Would you agree that then it's well known within

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 the tobacco industry that smaller particles are more
2 likely to have access to the lower parts of the
3 respiratory tract than larger particles in cigarette
4 smoke?

5 MR. McGAAN: Object, may call for
6 speculation.

7 A. I would think that that would be known.

8 Q. You knew that when you were at R.J. Reynolds;
9 right?

10 A. Yes.

11 MR. McGAAN: Object, vague as to what.

12 Q. Did R.J. Reynolds ever do any research on
13 whether large particles deposit in the upper
14 respiratory tract and smaller particles are likely to
15 have access to the lower part of the respiratory
16 tract?

17 A. Not to my knowledge.

18 Q. Sir, have we talked about all of the conclusions
19 that you have drawn related to the four issues that
20 you mentioned earlier concerning nicotine that
21 started with does Brown & Williamson spike -- spike
22 its cigarettes with nicotine?

23 A. About spiking?

24 Q. Well, you listed four different subjects.

25 MR. McGAAN: Why don't we go back to what

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 they are, just so we're clear.

2 MS. WIVELL: I'm trying to find my notes.

3 MR. McGAAN: I've got mine. All you have
4 to do is ask and I'll read it back.

5 Q. All right. Correct me if I'm wrong, sir, but I
6 think earlier you said that after allegations had
7 been made by the FDA and the press that -- that Brown
8 & Williamson spiked its cigarettes with nicotine,
9 that it altered its nicotine levels in order to
10 addict smokers, that ammonia was added to enhance
11 nicotine effect to addict smokers, and that ammonia
12 was added to increase the bioavailability of nicotine
13 in -- in -- or for the purpose of addicting smokers.

14 Is that essentially a synopsis of the issues
15 that you looked at after the FDA proposed its
16 rulemaking concerning treating cigarettes as drugs?

17 A. Essentially, yes.

18 Q. All right. Have we talked about all of the
19 conclusions that you have reached concerning those
20 four subjects this morning?

21 MR. McGAAN: Object, vague.

22 A. Okay. Let me go through them again, spiking,
23 and I --

24 Q. Alters the nicotine level to addict.

25 A. And I don't know if we talked about that one,

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 but anyway. What my conclusion is is that I don't
2 believe, on that particular one, I've looked at
3 deliveries of our products which are published in FTC
4 reports, and I don't see any indication that nicotine
5 deliveries have gone up over the years for our
6 products, they've gone down, which I think is a
7 relevant conclusion.

8 Q. You're talking about total nicotine delivery.

9 A. Yes.

10 Q. Have you addressed the issue of whether the form
11 of the nicotine in those deliveries has changed?

12 A. Well I think we did when we talked about
13 ammonia, and my view there was that it -- based on my
14 understanding of how ammonia is theoretically
15 effectuating a change in the form, my -- my
16 conclusion is that it's not because it doesn't -- our
17 use of ammonia in our products doesn't effectuate a
18 change in pH that would result in such a form change.

19 Q. Does ammonia, as used in Brown & Williamson's
20 cigarettes, free up nicotine from an unbound to a
21 bound form?

22 A. I'm not sure what you mean by "free up." Could
23 you please explain that?

24 Q. All right. Okay. We've established Brown &
25 Williamson uses nicotine -- Strike that.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 We've established Brown & Williamson uses
2 ammonia in its marketed cigarettes; right?

3 A. Yes.

4 Q. And does Brown & Williamson -- I'm sorry, strike
5 that.

6 Does the use of ammonia change the form of the
7 nicotine that's delivered to the smoker from unbound
8 -- I'm sorry -- from bound to unbound?

9 A. Not based on the data that I've reviewed.

10 Q. And have we talked about the data that you've
11 reviewed that you base that on?

12 A. Yes.

13 Q. Just so we're clear here, is it your testimony
14 that when a person takes a puff of a cigarette that's
15 marketed by Brown & Williamson that's ammonia
16 treated, that he or she is not taking in more free
17 nicotine than if that cigarette were not ammonia
18 treated?

19 A. Yes. That's my understanding based on my -- my
20 understanding of what the theory is of how ammonia
21 supposedly does this and what the basis of it is and
22 the measurements that we've made about the
23 characteristics of our products.

24 Q. Does ammonia treatment, as used in Brown &
25 Williamson, increase extractable nicotine?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Well "extractable nicotine" is a term that --
2 Well there's a long history behind what extractable
3 nicotine means. I suppose I could ask you to define
4 it to be more clear. I mean, I have an understanding
5 of what I think it means, but perhaps you can define
6 it and I'll answer your question.

7 Q. Well going back to Exhibit 4405, on page 023 it
8 says, "Hence it is the free nicotine (which
9 correlates with extractable nicotine) which is
10 associated with IMPACT, i.e. the higher the free or
11 extractable nicotine, the higher the IMPACT." Right?

12 A. Yes. Let me just make a note here. This
13 document appears to be from the marketing department
14 so I don't know if I would conclude that this is a
15 scientific document or a scientific assessment. It
16 appears to be some speculation probably by some
17 marketing person, but let me break that statement
18 apart.

19 I'm sorry. You're saying "hence free nicotine"
20 -- I'm sorry, what are you asking me to respond to?

21 Q. All right. Well the last paragraph on the page
22 023 --

23 A. Yes.

24 Q. -- that we've been looking at --

25 A. Yes.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. -- says "Hence it is the free nicotine (which
2 correlates with extractable nicotine) which is
3 associated with IMPACT i.e." the larger -- or I'm
4 sorry -- "the higher the free or extractable
5 nicotine, the higher the IMPACT."

6 A. Okay.

7 Q. Right. Now this author uses the word
8 "extractable nicotine"; right?

9 A. Right.

10 Q. All right. Keeping in mind --

11 Have you talked with the author of this
12 document?

13 A. No.

14 Q. Have you talked with any of the BATCo scientists
15 about what they mean when they use the word
16 "extractable nicotine" in any of their documents?

17 A. No.

18 Q. Well what do you understand "extractable
19 nicotine" to mean, sir?

20 A. Well my review of the documents indicates it's
21 been used in several ways and it's been measured in
22 several ways. Generally there is a belief that
23 so-called extractable nicotine correlates with free
24 nicotine. There is no way to directly measure the
25 amount of free nicotine or bound nicotine in any

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 analytical procedure so attempts have been made to
2 try to ascertain that using various techniques. The
3 methods used and applied to that have changed over
4 time and so therefore different results have been
5 obtained depending upon which method was used, which
6 solvents were used and so forth.

7 I've seen data that actually contradicts or
8 certainly doesn't support the statement that free
9 nicotine correlates with extractable nicotine because
10 I've seen reports where they -- they did extractable
11 nicotine measurements and they reported that this
12 means there's X percent free nicotine, but based on
13 the pH of the smoke there's no way there could be
14 that much free nicotine if you -- if you know what
15 the -- the PKA is of the one ionizable group that's
16 in consideration here versus the pH of the medium,
17 there is just no way applying the
18 Henderson-Hasselbach equation.

19 So the correlation isn't all that great, but I
20 think it depends largely on the method that's used.
21 So that's one issue that I'm not really certain
22 about, and I don't believe we really have a -- we
23 really can say with a great deal of confidence that
24 free nicotine correlates with extractable nicotine,
25 but nevertheless the extractable nicotine is a

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 analytical procedure that was -- that was developed
2 and thought to possibly correlate to the amount of
3 free nicotine.

4 Q. And in fact it was a --

5 MR. McGAAN: Were you done? I'm sorry.
6 Were you done?

7 THE WITNESS: Yes.

8 A. Well I think you were asking the question "is
9 free nicotine the same thing as extractable," and
10 what I was trying to say is no, it's not.

11 Extractable nicotine is an attempt to measure,
12 indirectly, the level of free nicotine, but the ways
13 that that's been done over the years has varied quite
14 a bit and the degree of correlation has also varied
15 and therefore the meaning, when one says "extractable
16 nicotine" unless they define, you know, what
17 analytical procedure and what method they're using,
18 you don't really know what they're talking about.

19 Q. Well sir, it was a working hypothesis within
20 Brown & Williamson that there was a correlation
21 between free nicotine and extractable nicotine.
22 Isn't that right?

23 A. Some people certainly --

24 MR. McGAAN: Object. Object, calls for
25 speculation and vague.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. I have seen indication in documents that some
2 people did have that as a hypothesis or a belief.

3 Q. And as a matter of fact that is one of the
4 reasons why ammonia technology was adopted at Brown &
5 Williamson, isn't it, sir?

6 MR. McGAAN: Object, vague.

7 A. What was one of the reasons why ammonia
8 technology was developed?

9 Q. This belief that there was a correlation between
10 free nicotine and extractable nicotine.

11 MR. McGAAN: Object, mischaracterizes the
12 testimony about the belief.

13 A. My understanding is that ammonia technology was
14 adopted to achieve the -- the types of flavor notes
15 that one gets when -- when ammonia reacts with
16 sugars, basically.

17 Q. And what do you base that opinion on, sir?

18 A. Discussion with various people in Brown &
19 Williamson, review of various documents --

20 Q. Discu -- Oh, I'm sorry.

21 A. -- where we've measured the types of flavor
22 compounds that are generated when ammonia reacts with
23 sugars.

24 Q. All right. With whom have you discussed this
25 subject?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

- 1 A. Names?
- 2 Q. Yeah.
- 3 A. Oh, John Lauterbach, Drew McMurtrie, Hugh
4 Honeycutt. I can't remember everyone I may have
5 discussed it with.
- 6 Q. Now you said you also reviewed various documents
7 where there had been a measurement of the type of
8 flavor compounds generated when ammonia reacts with
9 sugar; right?
- 10 A. Yes.
- 11 Q. All right. What documents are those?
- 12 A. I don't remember them by name. I know that some
13 of them were associated with things that you've
14 already mentioned, the so-called reverse
15 engineering. One report that you mentioned that
16 talked about reverse engineering of Philip Morris
17 products I think spent a lot of time focusing on
18 those types of reactions that occurred.
- 19 Q. Well is it your testimony that the presumed
20 association between free nicotine and extractable
21 nicotine played no role in the adoption of ammonia
22 technology by Brown & Williamson?
- 23 A. I don't know if it played any role whatsoever or
24 not. My understanding is that a lot of people
25 believed a lot of different things about what ammonia

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 may be doing. The primary reason for using it was to
2 achieve flavor contributions, and then people
3 speculated, well maybe, you know, in addition to that
4 it's doing this, that or the other.

5 (Interruption by the reporter.)

6 (Record read by the reporter.)

7 A. Also let me mention another major reason that I
8 forgot to mention for use of certain types of
9 ammonia-related ingredients, and that's to achieve
10 what's called -- a phenomenon called pectin release
11 whereby diammonium phosphate in particular can
12 release pectins which occur naturally in tobacco to
13 -- which can act as binders or jelling agents to
14 help bind reconstituted tobacco and form a sheet.
15 And I'm -- And I neglected to mention or forgot to
16 mention that was also a major reason why -- why this
17 material was used.

18 But anyway, the two major reasons were the
19 pectin release, it was then discovered that it also
20 contributes flavor, and then people went on to
21 speculate about other things it may be doing from a
22 sort of a hypothetical chemistry point of view. But
23 certainly those things were talked about and
24 discussed and speculated about in our documents.

25 Q. And by "those things" you mean increased

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 nicotine transfer; right?

2 A. Yes.

3 Q. So you would agree that there are documents of
4 Brown & Williamson which show that people within the
5 company were looking at ammonia technology as a way
6 to try and increase nicotine-transfer efficiency;
7 right?

8 A. I don't know if I could characterize it as a way
9 to try to increase it. They certainly noted that it
10 might be a possibility or speculated it might be a
11 possibility, and some may have viewed it as a
12 beneficial -- as a beneficial thing.

13 The thing that makes me doubtful as to whether
14 or not it really was technically feasible is that
15 when you look at the -- the data upon which, from my
16 understanding what people relied on to say yes, there
17 is an increase in nicotine-transfer efficiency, you
18 don't see that it would actually have a practical
19 effect on specifically increasing nicotine relative
20 to tar, that what it would be do is increase total
21 deliveries, which wouldn't really have any practical
22 effect because if total deliveries went up then the
23 product would deliver smoke outside its specified tar
24 range and that something would have to be done in the
25 cigarette-design process to bring that back down,

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 which would bring the nicotine delivery back down as
2 well.

3 Q. Well sir, you're referring to nicotine delivery
4 as measured by an FTC machine --

5 A. Yes.

6 Q. -- in that answer, aren't you?

7 A. Yes.

8 Q. Now sir, you said a little bit ago that you had
9 seen some evidence which contradicted -- I'm going to
10 try and find it so I can quote you correctly here.

11 MS. WIVELL: I can't get the machine to
12 search right so I'm going to try and paraphrase
13 here.

14 (Discussion off the stenographic record.)

15 Q. You say you've "seen data that actually
16 contradicts or certainly wouldn't support the
17 statement that free nicotine correlates with
18 extractable nicotine."

19 A. Yes.

20 Q. All right. What data are you referring to
21 there, sir?

22 A. I forgot exactly what it was. It was a memo, I
23 saw it recently, and what it was is it was a memo
24 that contained statements along this line that --
25 essentially suggesting that extractable nicotine

1 equated to free nicotine. And in the memo there was
2 a table of data which showed pH measurements for
3 various products and then extractable nicotine -- I
4 believe extractable nicotine levels and then a
5 presumed free nicotine level. And I remember
6 specifically that it was at -- the pH was something
7 like around, I don't know, 6, maybe 5 and a half or
8 6, but for an extractable nicotine level they
9 measured something like 75 percent extractable
10 nicotine. And I know there is no way that a
11 cigarette -- for nicotine to be present at pH 5.5 or
12 6 there is no way the amount of free nicotine is
13 going to be 75 percent. If you simply do an estimate
14 using the Henderson-Hasselbach equation it would
15 probably be less than 2 or 3 percent. So that was an
16 example -- Or maybe no more than 5 or 6 percent. I
17 shouldn't throw numbers around without actually
18 crunching them. But based on my knowledge of what
19 the association curve looks like I immediately looked
20 at it and said there's just no way that this
21 extractable nicotine estimate of free nicotine is in
22 any way jiving with the pH that was actually measured
23 in the smoke, so that was one example there.

24 Q. Well sir, is this document a Brown & Williamson
25 or BATCo document?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. I don't remember if it was a BATCo or Brown &
2 Williamson document.

3 Q. Is there any other data that you can point me to
4 that would support your opinion?

5 A. That's all I can remember at this time.

6 Q. Now you have mentioned this Harrison
7 Hasselbach --

8 A. Henderson-Hasselbach.

9 Q. I'm sorry, thank you. The Henderson-Hasselbach
10 equation. Where would I go to try and find that if I
11 wanted to figure out what you were talking about?

12 A. Any standard chemistry textbook, any high school
13 or college chemistry textbook.

14 Q. And is -- Strike that.

15 MS. WIVELL: Why don't we take a lunch
16 break. Wait, before we do that, just a couple other
17 questions.

18 BY MS. WIVELL:

19 Q. You would agree, sir, that it's technologically
20 feasible to remove nicotine from tobacco in the
21 cigarette-manufacturing process.

22 A. It's technically feasible to remove it from
23 tobacco, but when you say "in the
24 cigarette-manufacturing process," not in the process
25 as I know it. It would require an entirely different

1 -- I mean, it would require a major engineering
2 project. It certainly isn't possible in the process
3 that we have at Brown & Williamson, but it is
4 technically feasible to remove nicotine from tobacco.

5 Q. You would also agree that it's technologically
6 feasible to reduce the level of nicotine in
7 cigarettes; right?

8 A. Yes.

9 Q. Sir, the low tar/low tar --

10 MS. WIVELL: Why don't we take a lunch
11 break.

12 THE WITNESS: Okay.

13 THE REPORTER: Off the record, please.

14 (Luncheon recess taken at approximately
15 12:05 p.m.)

16

17

18

19

20

21

22

23

24

25

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 AFTERNOON SESSION

2 (Deposition reconvened at approximately
3 1:00 p.m.)

4 BY MS. WIVELL:

5 Q. Sir, I would like to turn to a subject that's
6 covered on the second page of your expert report,
7 Exhibit 4400.

8 A. On page -- where it says "page 2"?

9 Q. Well I'm talking about the page that says
10 "Primary Opinions."

11 A. Okay.

12 Q. Are we on the same page?

13 A. Yes.

14 Q. Directing your attention to the second paragraph
15 under "Primary Opinions."

16 A. Yes.

17 Q. It says, "Additives included in Brown &
18 Williamson's cigarettes are evaluated on a 'weight of
19 the evidence' approach. This approach focuses on
20 several factors to determine whether it is
21 appropriate to include the additive in the cigarette
22 or its packaging material"; right?

23 A. Yes.

24 Q. All right. Well sir, I'm not going to focus on
25 additives and packaging material. That refers to the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 pack, doesn't it?

2 A. Yes.

3 Q. It doesn't refer to the cigarette itself, does
4 it?

5 A. No.

6 Q. All right. Are there any packaging material
7 additives which affect the cigarettes that are placed
8 in them?

9 A. They could. There could be. An example might
10 be if any solvents are used in the application of any
11 of the materials to packaging, there could be some
12 migration to the cigarettes.

13 Q. Is there?

14 A. Yes, there -- we have indication that there is
15 in some cases.

16 Q. What migrates to the cigarettes?

17 A. Solvents used to apply inks and dyes to color
18 the package, the outside of the packaging material.
19 There may be trace residual solvents left and so the
20 packaging material, as it comes to us, may contain
21 trace residues and those could migrate throughout the
22 cigarette pack.

23 Q. Trace residues of what?

24 A. Solvents.

25 Q. What solvents?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Isopropyl alcohol.

2 Q. Now sir, focusing on the additives to the
3 cigarettes themselves, how do you define "additive"?

4 A. Well I guess I would define it as a material
5 added to tobacco in the manufacture of cigarettes.

6 Q. You would agree that the cigarette is a whole
7 lot more -- I'm sorry, strike that.

8 You would agree that the cigarette that's
9 manufactured by Brown & Williamson and sold here in
10 Minnesota is a whole lot more than just tobacco
11 wrapped up in a piece of paper, wouldn't you?

12 A. There are other -- I don't know what you mean by
13 "a whole lot more," but what I would say is there is
14 -- there are other elements in a cigarette other
15 than just tobacco and paper.

16 Q. There are over 300 different additives which are
17 used by Brown & Williamson; isn't that true?

18 A. That's true, but not in any given cigarette.
19 You mean -- You mean collectively the entire amount
20 of additives or numbers of additives. That is true.

21 Q. All right. What's the largest number of
22 additives which are used in a cigarette?

23 A. I don't know the exact number.

24 Q. Which cigarette has the most additives?

25 A. I'm not even sure if I even know the brand that

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 has the largest number.

2 Q. Now sir, you would agree that the nature of the
3 additives which are used by Brown & Williamson are
4 among its most closely guarded trade secrets.

5 A. Yes.

6 Q. And as a matter of fact, Brown & Williamson does
7 not disclose the additives that are used in its
8 cigarettes to the public, does it?

9 A. Some of the additives are disclosed, like
10 menthol, for example.

11 Q. All right. Well apart from menthol, what other
12 additives are disclosed to the public?

13 A. There have been a lot of -- There's been a lot
14 of literature and a lot of things talked about in --
15 to the public in various sources of information about
16 additives used in cigarette tobacco, but -- and so
17 the public is aware about the types of additives
18 used, but Brown & Williamson hasn't specifically
19 disclosed its brand recipes to the public.

20 Q. Well sir, are the additives listed on the pack
21 of cigarettes that a consumer buys?

22 A. Other than menthol, no.

23 Q. All right. Now there is a telephone number on a
24 Brown & Williamson-manufactured pack of cigarettes
25 that -- where the consumer can call if they have

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 questions; right?

2 A. That's correct.

3 Q. And you would agree that if a consumer were to
4 call Brown & Williamson and ask, for example, in
5 addition to menthol, what additives are used in Kool
6 cigarettes, they would not get that information from
7 that toll-free number, would they?

8 A. It depends upon the circumstances of their
9 inquiry, but as a general proposition if a person
10 just calls because they say I just want to know for
11 no particular reason, I don't believe we would give
12 them the brand recipe of our brands, no.

13 Q. Well sir, you wouldn't even tell them, without
14 giving them the recipe, what ingredients made up that
15 recipe, would you?

16 A. I don't believe so.

17 Q. And as a matter of fact, Brown & Williamson and
18 the other tobacco companies resisted the government's
19 efforts to have them tell the government what
20 additives were used in their cigarettes; right?

21 A. Can you refer me to what example or context or a
22 situation you're referring to?

23 Q. Well sir, you're aware that since -- in the
24 early '80s there was legislation passed that required
25 -- or rules made that required the tobacco industry

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 in the United States to disclose the additives in
2 their cigarettes; right?

3 A. Yes.

4 Q. And the cigarette manufacturers opposed those
5 disclosures; right?

6 MR. McGAAN: Object, may call for
7 speculation.

8 A. I don't have any direct knowledge or exposure to
9 what happened in the early '80s concerning those
10 discussions or negotiations or whatever.

11 Q. Well sir, you've studied additives for
12 cigarettes ever since you joined R.J. Reynolds in
13 1985; right?

14 A. Yes.

15 Q. And you understood, based on your research, that
16 the additive disclosure requirements were objected to
17 by the tobacco industry, didn't you?

18 MR. McGAAN: Object, asked and answered.

19 A. By the time I -- When I first started getting
20 involved in the tobacco industry in the ingredients
21 area this was all something that had already
22 happened. By the time I joined RJR, we already had a
23 -- an obligation to disclose the ingredients used in
24 cigarettes to the government. That was --

25 I believe the things you might be referring to

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 were things that occurred before my time with the
2 tobacco industry.

3 Q. You would agree that this obligation to disclose
4 the ingredients used in cigarettes to the government
5 do not require the tobacco companies to disclose
6 those same ingredients to the public.

7 A. That's correct.

8 Q. And has, to your knowledge, any cigarette
9 manufacturer ever voluntarily public -- publicly
10 disclosed those ingredients which make up the recipe
11 for its cigarettes?

12 A. The industry disclosed to the public the entire
13 composite list of ingredients used in its -- in its
14 products collectively as a composite list, but
15 they've never disclosed, to my knowledge, the
16 specific recipes for specific brands.

17 Q. Now sir, you would agree that most of the
18 research that has been conducted by Brown &
19 Williamson on its cigarettes have used as a
20 comparison the Kentucky reference cigarette; right?

21 A. I don't know if I can say that most of the
22 research has used that. I don't believe that to be
23 true.

24 Q. Well sir, do you understand that the industry
25 has collected the bulk of the information it has on

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 research related to cigarettes on the Kentucky
2 reference cigarette?

3 MR. McGAAN: Object, vague.

4 A. That's not my understanding. I know that the
5 Kentucky reference cigarette was developed by the
6 University of Kentucky to be used by outside
7 investigators as well -- well anybody who's really
8 looking into tobacco matters, to have a standard
9 reference control whereby they could compare results
10 of other tests. But I don't -- I don't think I could
11 -- could say that, yes, the bulk of the research --
12 I know it's been used, but I don't know if I could
13 say that the bulk of research has been -- has used
14 that cigarette.

15 Q. All right. Well focusing on the Kentucky
16 reference cigarette for a moment, do you know the
17 precise formula of that cigarette?

18 A. No.

19 Q. Have you ever tried to obtain the precise
20 formula for the Kentucky reference cigarette?

21 A. Oh, yes. I mean, I've got the information in
22 one of my files, but I don't -- I can't recite it.

23 Q. Well you would agree that the Kentucky reference
24 cigarette has few casings; right?

25 A. It contains one casing ingredient.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Which is?

2 A. I believe sugar.

3 Q. And what is a "casing ingredient," sir?

4 A. "Casing" is a term of the art within the tobacco
5 industry. It refers to a class of ingredients that
6 are primarily syrups and sugars, and really I think
7 the term goes way, way, way back when -- when these
8 things were added to chewing tobacco to make them
9 taste sweet, and I guess they also aid in what's made
10 -- what's called "casing the product," which is to
11 put it in a case form or to put the chewing tobacco
12 in a block form, and I think that's where the term
13 came from.

14 Q. Now sir, you would agree that the Kentucky
15 reference cigarette does not have any top dressings
16 added to it.

17 A. Not to my knowledge.

18 Q. What is a top dressing?

19 A. "Top dressing" is a term that refers to the
20 application, the light application of flavoring
21 ingredients.

22 Q. What does the phrase "biological activity" mean
23 to you, sir?

24 A. To me it means a response elicited in some
25 biological test system.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. You would agree that there are some ingredients
2 in marketed cigarettes which are shown to be
3 biologically active; right?

4 A. I would say that virtually every substance in
5 the universe exhibits biological activity if tested
6 in a range of studies, including flavor ingredients
7 and other ingredients that are used in cigarette
8 products.

9 Q. Well you would agree that if one tested the
10 biological activity of a Kentucky reference
11 cigarette, if it did not have the same casings and
12 top dressings as marketed cigarettes you'd be testing
13 the wrong product, wouldn't you?

14 MR. McGAAN: Object, vague and
15 argumentative.

16 A. I'm not sure I understand -- I don't know if I
17 really understand your question, if you could please
18 rephrase that.

19 Q. All right. Well you would agree, wouldn't you,
20 that in marketed cigarettes which Brown & Williamson
21 sells in the State of Minnesota there are casings
22 that are used.

23 A. I assume in some of them, yes.

24 Q. And there are casing that are --

25 A. The ones that we supply, yes.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. There are casings utilized in the cigarettes
2 which are marketed by B&W in Minnesota which are not
3 used in the Kentucky reference cigarette.

4 A. Yes.

5 Q. And there are top dressings added to cigarettes
6 that are marketed in the State of Minnesota by B&W.

7 A. Yes.

8 Q. And there are top dressings used in B&W's
9 marketed cigarettes which are not used in the
10 Kentucky reference cigarette; right?

11 A. Yes.

12 Q. And you would agree that if one were testing the
13 biological activity of a cigarette and were testing
14 the biological activity of a Kentucky reference
15 cigarette, that because of the differences in the
16 recipe for the Kentucky reference cigarette and those
17 cigarettes which are marketed by Brown & Williamson,
18 it wouldn't be an accurate comparison of the
19 biological activity to compare the Kentucky reference
20 cigarette with Brown & Williamson's marketed
21 cigarette; right?

22 MR. McGAAN: Object, compound and vague as
23 to both terms and purpose.

24 A. I would say it depends upon what the objectives
25 of the comparison that are being made are. If -- If,

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 for example, one is trying to ascertain whether or
2 not addition of ingredients to a commercial-type
3 cigarette at all changes its biological activity in
4 comparison to a standard reference cigarette which
5 has minimal or no additives to see if there's a
6 difference, I would think that's a valid comparison.
7 And if it -- And if a measure -- if a test were made
8 on the smoke of those two cigarettes in a biological
9 test system and they were shown to be not different,
10 then I think that's a valid comparison and a
11 conclusion may be that the evidence doesn't suggest
12 that addition of ingredients to this cigarette alters
13 in any way its biological activity in whatever
14 measure you're using compared to a Kentucky reference
15 cigarette, which as we just discussed has a minimal
16 amount of ingredients.

17 Q. All right, sir. Well let me ask you this.
18 Would you agree that one could not conclude anything
19 about the biological activity of a marketed cigarette
20 by merely testing a Kentucky reference cigarette?

21 A. No, I wouldn't agree with that because we just
22 discussed Kentucky reference cigarettes contain
23 sugar, and you also didn't mention another ingredient
24 that they contain, which is glycerol, which is a
25 humectant, and while those are only two ingredients

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 of many possible ingredients in terms of numbers, by
2 -- in terms of absolute weight or the amount of
3 total additives added to a blend, they represent the
4 majority of the total amount of additives added to a
5 blend. So I think a test of a Kentucky reference
6 cigarette at least tests two ingredients that -- that
7 are comparable to a lot of ingredients that are used
8 in commercial cigarettes. And your statement was it
9 tells you nothing, and that's what I'm taking issue
10 with, is I think it tells you more than nothing. It
11 tells you something in fact.

12 Q. All right. It may tell you something, but it
13 would be better, you would agree, if one wants to
14 make conclusions about the biological activity of a
15 marketed cigarette, to test the marketed cigarette;
16 right?

17 MR. McGAAN: Object, vague as to "better."

18 A. It depends upon what the objectives of the
19 assessment are.

20 Q. All right. Well if the objectives of the
21 assessment are to test the biological activity of the
22 marketed cigarette, --

23 A. Umm-hmm.

24 Q. -- it would be appropriate to -- to actually use
25 the marketed cigarette.

1 A. If one wanted to ascertain what -- what the
2 effect of smoke from a marketed cigarette was in a
3 particular test, certainly you'd want to -- you'd
4 want to test that, but you would probably also want
5 to include in your test, as any good experimental
6 design calls for, several controls and standards, and
7 a Kentucky reference cigarette serves the purpose of
8 being a reference control or a standard.

9 Q. Sir, what do you understand the word "synergism"
10 to mean?

11 A. Oh, combined effect, maybe when two things may
12 -- when -- when combined together might be more than
13 the sum of the parts. In toxicological literature
14 "synergism" could mean additive effects, it could
15 mean multiplicative effects.

16 Q. Would you agree that at least one example of how
17 synergism works would be the -- the equation two plus
18 two equals five?

19 A. If you're measuring a response, I mean that --
20 in a mathematical sense that's impossible, but yeah,
21 if you're measuring a response and you get a response
22 of two with one thing and a response of two in the
23 other and you add them together and get a response of
24 five, that would be a synergism.

25 Q. All right. And wouldn't you agree that a

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 cigarette, marketed cigarettes are a tobacco
2 toxicologist's nightmare due to the mixture of
3 substances which might act additively,
4 synergistically or antagonistically?

5 MR. McGAAN: Object, compound,
6 argumentative, incomprehensible.

7 A. The issue of assessing complex mixtures, whether
8 it be cigarette smoke or something that's in a -- in
9 a waste dump site that the EPA has to address, or
10 assessing what's in our air or in our food is
11 certainly a complex issue, and toxicologists grapple
12 with that all the time. It's nothing that's unique
13 to assessing cigarette smoke. It applies to any
14 complex mixture which is what most of us are exposed
15 to in our everyday environments. That's what
16 regulatory agencies and toxicologists have to deal
17 with on a day-in and day-out basis.

18 (Plaintiffs' Exhibit 4406 marked for
19 identification.)

20 BY MS. WIVELL:

21 Q. Sir, showing you what's been marked as
22 Plaintiffs' Exhibit 4406, this is a document that's
23 headed "What are we talking about?," and bears the
24 Bates number 107356063; right?

25 A. Yes.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Now sir, would you turn to the page that ends
2 with Bates number 067.

3 A. Yes.

4 Q. You see there a heading "WHY THE TOBACCO
5 TOXICOLOGIST HAS NIGHTMARES!"; right?

6 A. Yes.

7 Q. Why don't you take a look at that page and tell
8 me if you agree that these are subjects which give a
9 tobacco toxicologist nightmares, in a metaphorical
10 sense.

11 MR. McGAAN: Well object to the predicate
12 to the question, metaphorical or otherwise, but lacks
13 foundation with regard to this document and what it
14 might mean.

15 (Discussion off the stenographic record.)

16 A. So you want me to only refer to this one page?

17 Q. Yes, for the time being.

18 A. And what would you like me to talk about?

19 Q. Well sir --

20 A. Or what is your question?

21 Q. Do you agree that these are topics which give
22 the tobacco toxicologist nightmares?

23 MR. McGAAN: Same objection.

24 A. Well I'm not going to answer your question
25 directly because I don't know what "nightmares" means

1 and I don't know who wrote this document and what
2 they meant by that, but what I will comment on,
3 though, is what I began to comment on previously,
4 which is any assessment of a complex mixture, whether
5 it be food, air we breathe, water, tobacco smoke,
6 presents many complexities and difficulties and there
7 are many uncertainties and unknowns associated with
8 that endeavor, and it looks to me like the person
9 here undertook to list some of those and describe
10 some of them.

11 And if you want, I can give an opinion on any of
12 these that you want, but my general opinion is that
13 certainly assessment of complex mixtures presents
14 complexities and difficulties.

15 Q. And you -- Strike that.

16 Focusing on the first issue here, the fact that
17 smoke is a mixture of substances which may act
18 additively, synergistically or antagonistically, do
19 you agree with that statement, sir?

20 MR. McGAAN: Object to the form.

21 You can answer.

22 A. Yeah, it's quite possible that individual
23 substances in smoke could act additively,
24 synergistically or antagonistically. The difficulty
25 is -- Well for one thing, there's no reason to

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 believe that additive effects would predominate over
2 synergistic effects or even antagonistic effects.
3 You could argue equally forcefully that there are
4 antagonistic effects and that toxic effects of
5 individual constituents cancel each other out as well
6 as you would argue that they're synergistic. The
7 problem is --

8 (Interruption by the reporter.)

9 A. Whereby two substances may cancel each other out
10 as opposed to act synergistically. The difficulty
11 with this particular area is one that everyone
12 recognizes, not just for tobacco but for complex
13 mixtures in general, that presents difficulties, some
14 research has been done in this area, by and large the
15 research looking at this area has only been done
16 looking at the -- at the action of two different
17 things, not potentially hundreds or thousands of
18 things. The studies are typically conducted at very
19 large doses, so you may observe either an
20 antagonistic effect or a synergistic effect at high
21 doses but no one really knows if those effects will
22 translate into similar antagonisms or synergisms at
23 low doses. Almost never is it known what the
24 mechanism of the antagonism or synergism effect, what
25 it will be, so there's no way you can make a

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 prediction about what relevance it may have in such a
2 high-dose study. They're done almost exclusively in
3 animals, so no one knows what effect that might have
4 on humans, and no one knows what effect host factors
5 may have; namely, individual factors such as
6 absorption, metabolism, elimination and other types
7 of things that lead to resistance to the effects of
8 these things. So there's a lot -- there's a lot
9 about this -- that's written about this in the
10 toxicology literature, it's recognized it's a
11 potential issue, but at the end of the day no one
12 really knows much about it and there's no way you can
13 make a statement with any degree of confidence that,
14 yeah, this is happening or this is not happening.

15 Q. All right. Well in your review of Brown &
16 Williamson documents, getting back to the subject of
17 additives, did you find any evidence that Brown &
18 Williamson tested the additives which are used in
19 their marketed cigarettes before they used those
20 additives?

21 A. Brown & Williamson makes an assessment on -- on
22 all additives and every additive that's used before
23 it's used in a manufactured product or a marketed
24 product.

25 Q. All right. Well let me refine my question a

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 little bit more.

2 We've talked in this deposition about bench
3 research; right?

4 A. Yes.

5 Q. That's done with actual Bunsen burners and test
6 tubes; right?

7 A. Sometimes.

8 Q. Sometimes with gas --

9 A. It may be, depends on what you're doing.

10 Q. Sometimes with gas chromatograph; --

11 A. Sometimes.

12 Q. -- right?

13 Well keeping in mind that that --

14 Keeping in mind those kinds of things as bench
15 research, did Brown & Williamson do any bench
16 research on additives to its cigarettes before it
17 used them?

18 MR. McGAAN: Object, vague.

19 A. As I said, an assessment was made on every
20 additive, and the first step in any good assessment
21 process is -- is looking at the total information
22 that's already available on the material, and then
23 from there saying do we have sufficient information
24 to support a view that this is an acceptable
25 ingredient or do we need to go on and collect

1 additional research. If it's deemed that additional
2 research of some nature is required to make the
3 assessment, that would be done. If, on the other
4 hand, a judgment's made that sufficient information
5 exists to make a reasonable conclusion that addition
6 of a particular ingredient is acceptable, then --
7 then we would move on there and not do so-called
8 bench research.

9 Q. Well was any bench research done before Brown &
10 Williamson used any of the additives that are in its
11 currently marketed cigarettes?

12 A. A lot of so-called bench research, and you
13 probably mean "toxicological testing" perhaps, I'm
14 not sure what you mean. But lots of --

15 MR. McGAAN: Let me object, then. If you
16 don't understand what she means in the question --

17 THE WITNESS: Well I don't really
18 understand.

19 MR. McGAAN: -- we ought to get that
20 clarified, then you can answer.

21 A. Okay. Let's talk about it.

22 Q. Well let's talk about the toxicological
23 research, then. Was any toxicological research done
24 by or on Brown & Williamson's behalf before it used
25 any of the additives that are in its currently

1 marketed cigarettes?

2 A. Yes.

3 Q. When was that research done?

4 A. Research spanned over probably 30 or 40 years.

5 Research has been conducted by BATCo in various

6 instances on either specific ingredients or on

7 mixtures of ingredients in different products.

8 Research has been done in the open published

9 literature concerning various ingredients in various

10 ways, research has been conducted by other tobacco

11 companies and that information has been available to

12 Brown & Williamson through a committee that -- that

13 exists through Covington & Burling, an ingredients

14 committee where research findings on ingredients has

15 been shared. There's been a lot of research

16 conducted, and there's also an enormous amount of

17 basic and fundamental work done both by Brown &

18 Williamson and other tobacco companies and the

19 outside scientific literature concerning the

20 chemistry of smoke, the chemistry of tobacco and what

21 constituents in tobacco give rise to the components

22 in smoke, and much of that information is relevant to

23 what contributions a particular additive may have to

24 smoke composition.

25 All of that information was available to us and

STIREWALT & ASSOCIATES

P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 was used to form a basis of our opinions regarding
2 different ingredients used in cigarettes.

3 Q. All right. Well let's go back, because I don't
4 think you really answered my question. I asked when
5 was the research done, so let's start with what was
6 conducted by BATCo.

7 When was that done?

8 MR. McGAAN: I'm going to object and move
9 to strike counsel's comments that preface her
10 question, they're incorrect.

11 A. I can't give a specific date because it's
12 research that spanned over a 30-year period.

13 Q. And just so -- just so we're clear here, I'm
14 distinguishing between review of the -- what you have
15 referred to as the open published literature, which
16 I'm not asking about now, and actual toxicological
17 research on mixtures that you referred to in your
18 answer. And you can't tell me when that research was
19 done?

20 MR. McGAAN: Object, vague.

21 A. I could give a couple of specific examples that
22 I -- that I have committed to memory, but as I said,
23 research relevant to ingredients spanned a range of
24 over 30 years so I can't -- and it was involving many
25 reports. Let me give you an example. I can't give

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 you an exact date -- it was in the mid-'60s -- BATCo
2 did some mouse skin-painting tests on different
3 products. One of the things that they tested was a
4 cigarette which contained all flue-cured tobacco, and
5 they compared that with a commercial cigarette, in
6 fact it was a Brown & Williamson commercial cigarette
7 with a commercial recipe, and they did this long-term
8 mouse skin-painting test which the endpoint was
9 tumors, carcinogenicity test, and compared the
10 biological activity in that particular test between
11 these two cigarettes, one containing no additives,
12 one contain -- one was a U.S. commercial B&W
13 cigarette containing its full complement of
14 additives. What they found, for example, in this
15 test was that the cigarette that had the -- the B&W
16 cigarette that had its full complement of additives
17 actually had less biological activity than the
18 cigarette that had no additives.

19 That is among the things that I relied on to get
20 an indication of whether or not ingredients
21 significantly influence biological activity, but that
22 wasn't the only thing. There were other things. I
23 just -- I just can't remember all of them and rattle
24 off dates, but I do have committed to memory a couple
25 of examples.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. All right, sir. You are aware of the fact that
2 Brown & Williamson used Coumaren in its cigarettes.

3 A. Yes.

4 Q. When did it use Coumaren?

5 A. I can't recall the time span.

6 Q. Coumaren was dropped as an additive before Brown
7 & Williamson had to disclose its ingredient list as
8 required by federal statute in 1984; right?

9 A. I believe its use in cigarettes did cease before
10 that time.

11 Q. And did Brown & Williamson drop a number of
12 other ingredients right before submitting their first
13 annual report to the -- or as required by federal
14 statute in 1984?

15 A. I'm not aware of what Brown & Williamson did
16 during that time frame.

17 Q. Now sir, has Brown & Williamson ever tested the
18 -- to determine the pyrolysis byproducts of the
19 additives it used in cigarettes?

20 A. Brown & Williamson makes an assessment of the
21 fate, possible fate in transfer of all of its
22 ingredients, and some of that includes pyrolysis
23 testing if a judgment is made that -- that there's
24 insufficient information to draw a conclusion, and
25 among the things that have been done is as I said, we

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 have a good understanding of the chemistry of tobacco
2 leaf and its constituents and components. We also
3 have a good understanding, through our own research
4 and through that of others over 40, 50 years of
5 research, of what the contribution of those leaf
6 components are to smoke chemistry that gives us a
7 good sense of how those two relate.

8 Now if we're using, for example, an ingredient
9 that is composed primarily or entirely of the same
10 stuff that tobacco is composed of, we can make a
11 pretty good judgment that its contribution to smoke
12 is going to be the same as the things that are in
13 tobacco, and if it's also used at relatively low
14 levels so that its likely contribution is also going
15 to be minimal and it's identical to a tobacco
16 constituent we may stop the assessment right there
17 because we could draw a reasonable judgment that it's
18 likely to -- unlikely to influence the composition of
19 smoking in any significant way relative to what it
20 already is. In cases where we feel that we need to
21 get pyrolysis data, we will obtain that data.

22 Q. Well sir, you would agree, wouldn't you, that
23 for most of the ingredients which are added to Brown
24 & Williamson's marketed cigarettes, Brown &
25 Williamson does not have pyrolysis data?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. We -- As I said, we've made an assessment and we
2 can draw upon several sources of information to get a
3 sense of that. One of the things that I mentioned
4 was this test that was done back in the mid-'60s.
5 That test was a skin-painting test on smoke -- whole
6 smoke collected after the cigarette was burned, so
7 that smoke that was tested including -- included the
8 pyrolysis products of all the ingredients that were
9 in that cigarette.

10 Other such tests have been done on cigarettes
11 over the years which included skin-painting studies,
12 which included Ames testing, sometimes with
13 cigarettes with ingredients, sometimes without, but
14 for those where -- where cigarettes were tested that
15 had ingredients, the smoke was tested, so that would
16 have included the -- the effect of pyrolysis of those
17 ingredients.

18 Q. But sir, you would agree, wouldn't you, that
19 neither BATCo or Brown & Williamson has tested the --
20 or has pyrol -- I'm sorry -- pyrolysis data on the
21 vast majority of additives which are currently used
22 in the marketed cigarettes sold in Minnesota.

23 A. Well again, before undertaking to do something
24 like that the first step is determining if there's a
25 need to, and there's lots of sources of information

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 out there that we can draw upon to make that
2 assessment.

3 Another example -- excuse me -- is a study that
4 was published where scientists at R.J. Reynolds
5 compared the activity of smoke, in the Ames test, of
6 cigarettes that represented over 70 percent of the
7 market in the United States -- and these are actual
8 commercial cigarettes, these are cigarettes that were
9 on the market that had their full complement of
10 additives -- and those cigarettes were smoked, the
11 smoke collected, so therefore those additives were
12 pyrolyzed. And the overall activity in the Ames
13 assay of this range of products was compared against
14 the activity of a Kentucky reference cigarette, which
15 as we discussed contained two ingredients but not all
16 the ingredients in a commercial cigarette.

17 And the conclusion of that study was that
18 overall the -- the biological activity of the
19 commercial cigarettes, on average, was about the same
20 as a Kentucky reference cigarette. Since these
21 cigarettes were smoked and burned and then the smoke
22 was tested, those test results reflected the
23 pyrolysis of those ingredients.

24 MS. WIVELL: Move to strike as
25 nonresponsive.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Sir, did you hear me ask about R.J. Reynolds in
2 my question?

3 MR. McGAAN: Object, argu --

4 A. No, but this is --

5 Q. Well then let me re-ask my question again.

6 MR. McGAAN: No, wait, wait. I have an
7 objection. I have an objection.

8 MS. WIVELL: Fine. You've preserved it,
9 Andy.

10 MR. McGAAN: No, no, no. You've
11 interrupted me and you have made quite a record in
12 this litigation about the interrupt rule. My
13 objection is: Argumentative. You don't need to
14 quibble with him about how you asked your question,
15 just go ahead and ask another question.

16 Q. Well I'm going to ask the question again,
17 because I didn't get an answer to it. I'm not
18 talking about RJR, sir.

19 Isn't it true that neither BATCo nor Brown &
20 Williamson has pyrolysis data on the vast majority of
21 additives which are currently used in marketed
22 cigarettes sold in Minnesota?

23 MR. McGAAN: Asked and answered.

24 A. And as I was trying to answer, we make an
25 assessment of the need to get a view of what the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 pyrolysis products may be and how they may influence
2 smoke chemistry and biological activity. The reason
3 why I referred to that data is because it was
4 published in the open literature. It doesn't matter
5 who did it. I probably didn't even need to mention
6 that. But it was published in the open literature
7 and it was something that we had access to and
8 something that was available to us. We always review
9 the literature before we make -- undertake any
10 assessment. We felt that information was relevant to
11 the pyrolysis issue.

12 Q. And so for the vast majority of additives, Brown
13 & Williamson -- neither Brown & Williamson nor BATCo
14 then went and did bench science analysis of the
15 pyrolysis data of the additives they were using in
16 marketed cigarettes here in Minnesota; right?

17 A. My statement is: We make an assessment on the
18 possible pyrolysis products of every ingredient,
19 drawing upon a range of information that's relevant
20 to the pyrolysis and its possible health effects. If
21 it's felt that there's a significant gap, we will
22 undertake to do pyrolysis testing in the laboratory,
23 and have done that. But we don't do that on every
24 single ingredient, because in our view there's
25 sufficient information out there from various other

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 sources that's relevant to an assessment of what the
2 potential pyrolysis products may be.

3 Q. So you would agree, sir, wouldn't you, that for
4 the vast majority of additives used in cigarettes
5 that Brown & Williamson has sold in Minnesota, what
6 Brown & Williamson has done is it's gone to the
7 literature and read what other people have done;
8 isn't that right?

9 MR. McGAAN: Object, mischaracterizes the
10 testimony.

11 A. No. I believe I also said that BATCo has also
12 done a number of studies that are also -- provide
13 information relative to an assessment of the
14 acceptability of pyrolysis products of ingredients in
15 cigarettes.

16 Q. Was this before or after they were used in
17 cigarettes that were marketed here in Minnesota,
18 sir?

19 MR. McGAAN: Object, vague.

20 A. I can't answer that because I'd have to go back
21 and look at each and every one of the studies and
22 determine the dates and determine when they were
23 marketed in Minnesota.

24 Q. But it would be fairly safe to say that for most
25 of the additives that are used in cigarettes which

1 Brown & Williamson has sold here in Minnesota, you've
2 gone to the literature and read what somebody else
3 says about the appropriateness of using those
4 additives; right?

5 MR. McGAAN: Object, mischaracterizes,
6 asked and answered.

7 A. What I would say is we have not done a specific
8 laboratory pyrolysis test on each and every
9 ingredient because we reviewed appropriate
10 information sources, including internal data we had,
11 including data that was available to us from BATCo,
12 including published literature and also information
13 that was available through other tobacco companies
14 through the Covington & Burling committee that I
15 mentioned, including assessments that had been made
16 independently of the acceptability of ingredients by
17 various consultants, and collectively if that
18 information was sufficient to draw a conclusion that
19 pyrolysis -- specific pyrolysis testing was
20 unwarranted or was not needed, then we didn't do it.
21 If we felt it was needed, then we did do it.

22 Q. All right. Well sir, you make reference here in
23 your expert opinion to an evaluation based on the
24 weight-of-the-evidence approach and you have now
25 referred to various appropriate information sources

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 that you looked at. What are those sources, sir?

2 A. I'm sorry, I'm not sure I understand your
3 question.

4 Q. Well what are the sources that you were just
5 referring to? You said "we review...appropriate
6 information sources." What information sources?

7 A. Well I think some of them I just mentioned.

8 Q. Well, are there any others?

9 A. Well in the assessment of ingredients we look at
10 a lot of things, and I guess I can just start from
11 the beginning. We look at what -- basically what the
12 composition of the material is, what its identity is
13 and just what is it from a chemical point of view.
14 We look at what the proposed use levels are so we can
15 make an assessment of dose and potential exposure.
16 We review what its regulatory status is in both food
17 regulations; in other words, is it permitted to be
18 added directly to food to be consumed? We look at
19 what its regulatory status is in tobacco regulations
20 that specifically govern the use of ingredients used
21 in tobacco products, primarily those in Europe. We
22 look at uses in other consumer products to get a
23 sense of what exposures may occur as a result of
24 uses, in other products. We also look at natural
25 occurrence, does the material -- most of these things

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 occur either naturally in tobacco and/or foods and
2 beverages, and when we do that we take special note
3 of any instances where the presence of the material
4 in a food or beverage may have been connected with
5 any kind of adverse health effect, so we review
6 that. We look at exposure standards related to those
7 ingredients, if there are any acceptable daily
8 intakes or any other standards that are relevant to
9 acceptable daily exposures for those materials. We
10 consider any negative lists, like is it on an IARC
11 carcinogen list or an NTP carcinogen list or a
12 California Proposition 65 negative list or any
13 prohibited lists. We consider any adverse publicity,
14 even if we're satisfied that an ingredient would not
15 present an adverse health effect we certainly take
16 into account whether its disclosure could lead to an
17 adverse publicity event. So that's not a scientific
18 assessment, but nevertheless we do make that
19 assessment. And we look at all of this and make a
20 judgment of acceptability. And of course we review
21 the published literature regarding health effects,
22 toxicology. And for any information we feel is
23 missing that's critical we will seek to obtain that
24 information through our own research.

25 Q. Now sir, you mentioned that you look at whether

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 it's -- the additive is used in food or beverages; is
2 that right?

3 A. Yes.

4 Q. Now sir, you would agree that ingestion through
5 the stomach is not the same route of administration
6 as inhalation of pyrolysis byproducts; right?

7 A. That's correct, it's not the same.

8 Q. And in fact earlier today you told us that you
9 didn't -- when we were talking about the subject of
10 the administration or rate of absorption of nicotine,
11 that you didn't think that the data, the
12 toxicological data concerning digestion absorption of
13 nicotine was precisely parallel to that data
14 concerning inhalation of nicotine; right?

15 A. That's correct.

16 MR. McGAAN: Object.

17 A. Let me mention something, though. I didn't at
18 all represent -- at least I hope I didn't -- that
19 looking at acceptability in food regulations is the
20 sole basis of our assessment. In fact I think I
21 mentioned quite a few things. But it does provide
22 some relevant information because at least it's an
23 indication that a regulatory authority has reviewed
24 the data and determined that it's acceptable to be
25 exposed to the substance by some route, in this case

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 putting it in your food and eating it.

2 Q. Well you would --

3 A. So I agree it's not relevant completely and
4 totally, but it is -- provides relevant information
5 that is one piece of the great puzzle of collection
6 of information that we rely upon.

7 Q. Now you would agree that the FDA does not have
8 any regulations currently concerning what can or
9 cannot be put in a cigarette.

10 A. That's correct.

11 Q. And cigarettes are not food, are they?

12 A. No.

13 Q. You mentioned the IR and the NTP list. What are
14 those?

15 A. IARC, I-A-R-C.

16 Q. IARC. And what is that?

17 A. Do you want me to give the --

18 Q. Yes, sir.

19 A. Okay. That's the International Agency for
20 Research on Cancer, and the NTP is the National
21 Toxicology Program.

22 Q. The National Toxicology Program is what, sir?

23 A. It's a program under, I believe, NIEHS, which is
24 the National Institute of Environmental and Health
25 Sciences, that basically has the objective of doing

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 toxicological tests on various substances which are
2 nominated for testing by either private parties or by
3 government agencies. It's focused mostly on
4 carcinogenicity testing in laboratory animals.

5 Q. And sir, has the National Toxicological Program
6 looked at the issue of whether cigarette smoking or
7 -- whether cigarette smoke is toxic?

8 A. I don't recall. They may have, but I don't
9 recall them specifically testing cigarette smoke.

10 Q. All right. What components of cigarettes has
11 the National Toxicological Program evaluated?

12 A. You mean what smoke constituents?

13 Q. Yes.

14 A. I don't know. The -- First of all, there's a
15 lot of smoke constituents and the NTP program has
16 done tests on a lot of chemicals. I'm sure they must
17 have at some point tested some of them, but I can't,
18 you know, recite a list right now. If I had a list
19 of the NTP program substances that had been tested, I
20 could tell you which of those are in smoke.

21 Q. You would agree that the additives which have
22 been used by Brown & Williamson in its cigarettes are
23 pyrolyzed and their byproducts do appear in the smoke
24 that's inhaled by the smoker.

25 A. Not all the additives are pyrolyzed. Some of

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 them are.

2 Q. Some of them are so volatile they boil away;
3 right?

4 A. Yes.

5 Q. Now you mentioned that some of these
6 toxicological tests are done with very large or
7 megadoses; is that right?

8 A. Which tests are you referring to?

9 Q. Well you had referenced earlier some research
10 that had been done using very large doses. Do you
11 recall that, sir?

12 A. Well, no, I don't remember the specific -- which
13 testing you're referring to. We've talked a lot --

14 Q. Well we were talking about additives when you
15 made that comment.

16 MR. McGAAN: No, we weren't.

17 A. I don't remember that.

18 Q. All right. Well, sir --

19 MR. McGAAN: It was about the synergy,
20 antagonism stuff I think you're thinking of.

21 Q. Let me say this. You would agree, wouldn't you,
22 sir, that the megadose approach is accepted by the --
23 as general -- Strike that.

24 You would agree that the general consensus among
25 toxicologists is that the megadose approach to

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 toxicology is a valuable tool; right?

2 MR. McGAAN: Object, vague.

3 A. Well I think the -- the toxicological community
4 would have a consensus that a properly conducted
5 toxicological test would include a range of doses
6 that span the minimum to the maximum, and that would
7 include the so-called maximum tolerated dose, but it
8 would also, a properly conducted test would also
9 include doses that identify a no-effect threshold and
10 also include doses at which absolutely no effects are
11 observed so one could characterize the entire range
12 of biological responses that would -- would ensue
13 over a very broad range of testing. That I think
14 that there would be general consensus on.

15 Where there is a great debate on, and the debate
16 is really, in my view, leaning one way now, is what
17 the meaning is -- how one should interpret the
18 results from a -- a test that's done at a maximum
19 tolerated dose. If one, for example, finds a
20 response where the animals get cancer and the dose
21 was the maximum tolerated dose and there's evidence
22 of significant tissue toxicity and maybe cellular
23 proliferation associated with that toxicity, many
24 people now are beginning to question -- actually
25 they've been questioning it for about 10 years, but

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 there's getting to be a critical mass now that's
2 being reflected in regulatory agencies' thinking and
3 so forth, that such test results probably aren't
4 relevant to exposures that occur in everyday life at
5 lower levels. And this -- this is something that's
6 -- a debate that's been going on for quite some
7 time. So there I wouldn't agree that there's a
8 general consensus of how to interpret and what the
9 relevance of results at the MTD are, that -- namely,
10 the maximum tolerated dose, but I think everyone --
11 or there would be a consensus that a properly
12 conducted test would span a complete range of doses,
13 including one that identifies a no-observable-effect
14 level.

15 Q. Well sir, you would agree that the maximum
16 tolerated dose or MTD dose that you have just
17 referred to in your answer is one that many
18 governments have incorporated in various safety
19 testing requirements concerning toxicological tests.

20 A. Yes, they have. They have said that that's an
21 appropriate thing to do is a dose at that level and
22 -- as well as identify a no-observable-effect level.

23 Q. And sir, you would agree that the MTD tests
24 currently are required by various U.S. Government
25 agencies.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Well the standard testing protocol is one that
2 would include testing at the maximum tolerable dose.

3 (Interruption by the reporter.)

4 Q. The National Toxicological Program includes MTD
5 testing, doesn't it?

6 A. Yes, it does.

7 Q. And by the way, sir, the National Toxicological
8 Program established a -- or was an attempt to
9 establish a common set of toxicological evaluations.

10 A. Well I don't know if their objective -- I think
11 what you mean is there's a standard testing protocol,
12 and I don't know if that's what their objective was
13 but certainly that was something that they did do and
14 had to do, really, in order to accomplish their
15 objectives. So there is a standard testing protocol
16 which is incorporated by the National Toxicology
17 Program, as well as other agencies, that -- that's
18 looked to as sort of the standard, you know, testing
19 protocol.

20 Q. What is the --

21 What are the tests that are included?

22 A. Well, in a complete assessment it could include
23 everything from acute testing -- what I mean by that
24 is what the effects -- short-term effects are of high
25 doses, which could be lethality by various routes of

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 administration, such as testing by the mouth, testing
2 by inhalation, testing by skin. It might also
3 include irritation effects such as if the substance
4 is tested in the eye-irritation test or the
5 skin-irritation test. It may look at dermal effects;
6 namely, skin effects such as dermal sensitization,
7 irritation, allergic reactions.

8 After acute tox testing is conducted, then
9 typically the -- the whole range of tests would then
10 include what's called genetic toxicology testing, and
11 this would be where a test substance is tested in
12 various gene tests; namely, the Ames assay, sister
13 chromatid exchanges --

14 (Interruption by the reporter.)

15 A. -- sister chromatid exchanges, chromosome
16 elaborations and other tests. And what I'm -- what
17 I'm explaining is what -- what the entire full-blown
18 testing span may be, but they don't always do that on
19 every substance. They may only do just one test or
20 the other, depending upon what they feel is
21 necessary, you know, to achieve their objectives.
22 But if you include -- I mean, I'm describing right
23 now all the tests available and their entire
24 repertoire, and if that were applied to a substance
25 it would then go on to subchronic testing where a

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 substance is administered by some route of
2 administration for usually 90 days in rats, and then
3 it would go on to chronic testing, which the test
4 substance would be administered for two years in
5 rodents; it might include absorption, distribution,
6 metabolism and elimination studies or ADME, to get a
7 sense of what the metabolism and the distribution
8 is.

9 And depending upon the circumstances they may
10 call for special tests, like if it's a skin -- if
11 it's something that might be applied by the skin it
12 might be dermal absorption. If the substance is
13 thought to have a unique property such as peroxisome
14 proliferation, they may do a peroxisome proliferation
15 test, or they may look for alpha-2-u-globulin
16 proteins appearing in the kidney if the substance is
17 thought to work through that mechanism.

18 So they could do any number of things depending
19 upon the circumstances, you know, of the -- of the
20 testing situation and the properties of the substance
21 and what's known about the substance before they
22 design their test protocol.

23 Q. Sir, the B.A.T. group has used some of these
24 test procedures that you have just described to try
25 and develop a biologically -- I'm sorry, strike

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 that.

2 The B.A.T. group has used some of these test
3 procedures you have just described to try and develop
4 a cigarette with lower biological activity; right?
5 A. Well the B.A.T. group has, from the early '60s,
6 attempted to respond to the smoking-and-health
7 situation in a number of ways. One approach has been
8 to develop a cigarette with lower biological activity
9 as measured in some standardized test. Now they have
10 employed a range of tests over the years to try to
11 develop a test that would hopefully be relevant and
12 be predictive of possible human disease-causing
13 potential, but at the end of the day you're never
14 really sure if the test is relevant. But they also
15 had some other constraints such as if they wanted to
16 assess a large number of product variables or
17 attributes, if you relied on a long-term two-year
18 test you can only do so many, you can only measure so
19 many things. So they also had the practical
20 constraint of wanting to test a lot of things so they
21 were looking always for a shorter-term test that
22 would be relevant.

23 But yes, one of the objectives was reduced
24 biological activity as measured in some test, but
25 there were other strategies employed over the years

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 to dev -- to modify products in a way that would
2 respond to the smoking-and-health issue.

3 Q. All right. Well before we turn to the subject
4 of -- of a cigarette with lower biological activity,
5 let me ask you, going back to the National
6 Toxicological Program test -- tests that you just
7 described for us in some detail, did -- has Brown &
8 Williamson tested its marketed cigarettes using those
9 tests which are -- that you listed for us as part of
10 the National Toxicological Program?

11 A. You mean all of the tests that I just
12 described?

13 Q. Yes, sir.

14 A. I can't think of hardly any substance in the
15 world that has gone through that complete battery of
16 tests. There are a few, but most chemicals that are
17 tested and used in commerce and in consumer products
18 and foods don't have that array of data.

19 Now what we would do is, as I said, we make an
20 assessment on every ingredient and what we would do
21 is assess the available information, and how much
22 information is available, to give us a judgment so
23 that we can draw a judgment on the need to do further
24 work.

25 Q. Well of those tests, and keep in mind I'm

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 talking about marketed cigarettes, cigarettes which
2 have been marketed here in the State of Minnesota,
3 which of those tests have been done on marketed
4 cigarettes or their pyrolysis byproducts?

5 A. Well you mean on every marketed cigarette or on
6 any marketed cigarette?

7 Q. Well let's start with any marketed cigarette.

8 A. Well earlier we talked about the fact that some
9 commercial cigarettes were tested in the Project
10 HILTON, so they were tested for acute toxicity. So
11 that -- I think I began with acute toxicity.

12 Q. All right.

13 A. We talk about -- then the next -- After acute
14 toxicity I went into genetic toxicity testing. I had
15 mentioned that this study that was published compared
16 the activity in the Ames test, which is a genetic
17 toxicity test, of 70 percent of the U.S. market
18 share, which included some Brown & Williamson
19 cigarettes, and compared the Ames activity of those
20 cigarettes to a Kentucky reference cigarette.

21 Q. By the way, sir, that was work that was done by
22 R.J. Reynolds; right?

23 A. Yes, and published in the open scientific
24 literature.

25 Q. But it was not work that was done by Brown &

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Williamson published in the open scientific
2 literature; was it?

3 A. No, but I don't know what difference it makes.

4 Q. All right. Well let's go back to what Brown &
5 Williamson did, continuing on with your answer.

6 A. I think next was subchronic research. Some
7 subchronic studies have been done on some
8 ingredients, either subchronic inhalation or other
9 subchronic testing. I don't recall right at this
10 time subchronic inhalation studies being done on
11 Brown & Williamson cigarettes per se, but I know
12 subchronic inhalation tests have been done on a
13 number of cigarette ingredients in cigarettes by
14 other companies and those data have been available to
15 us.

16 And chronic testing has been done, mostly in the
17 form of mouse skin-painting tests, on -- and I've
18 mentioned I think earlier that in the mid-'60s B.A.T.
19 did a study on a B&W commercial cigarette, it was a
20 chronic test and the mouse skin-painting test.

21 Q. Are you including in your answer anything that
22 BATCo might have done --

23 A. Yes.

24 Q. -- or any of the other associated companies?

25 A. Yes.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. So has anyone in the B.A.T. group done any
2 sister chromatid exchange experiments concerning
3 constituents of -- or pyrolysis byproducts of
4 marketed Brown & Williamson cigarettes?

5 A. I don't recall specifically that particular
6 instance; namely, I know that some sister chromatid
7 exchange experiments have been done, but I'd need to
8 -- I'd need to collect additional information to
9 find out whether or not a commercial cigarette was
10 actually tested in those. It wouldn't surprise me if
11 it was.

12 Q. Now you mentioned chromosome aberration tests.

13 A. Yes.

14 Q. Have those been done on the pyrolysis products
15 of marketed Brown & Williamson cigarettes?

16 A. We did do a chromosomal aberration test on, yeah
17 -- Well it was an experimental cigarette but it had
18 a blend that we use in one of our commercial
19 cigarettes.

20 Q. When was that done?

21 A. Very recently.

22 Q. How recently?

23 A. Probably within the last six months.

24 Q. Who did that work?

25 A. BATCo.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. What did it show?

2 A. It showed no difference compared to a Kentucky
3 reference cigarette.

4 Q. Has that work been produced in the Minnesota
5 depository?

6 MR. McGAAN: He doesn't -- He doesn't know
7 what's been produced to the depository.

8 MS. WIVELL: Well I would like a copy of
9 that research, please.

10 THE WITNESS: Okay.

11 Q. Now sir, prior to the last six months had anyone
12 within the B.A.T. group done any chromosome
13 aberration experiments on any cigarettes that were of
14 the same recipe as a marketed Brown & Williamson
15 cigarette?

16 A. I can't think of a specific example, but it's
17 not an area I would -- I would be familiar with
18 necessarily. They do have the capability to do those
19 tests, they do employ those tests. I don't know
20 everything that they do over there. I may become
21 aware of it. From time to time I'm sent reports of
22 these things and I look at it. I know other tests
23 have been done that I didn't mention, other
24 mutagenicity-type tests.

25 Q. I was just going to ask you if there were any

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 mutagenicity tests.

2 A. As it so happens I recently received a report,
3 within the last six months, of what's called a TK
4 Locus test. It's -- Again it's another mutagenicity
5 test, and in that test a comparison was made between
6 an all-Virginia cigarette containing no additives
7 with a Brown & Williamson commercial cigarette
8 containing additives. In that test it showed that
9 the Brown & Williamson commercial cigarette had lower
10 activity as measured in this particular test.

11 MS. WIVELL: I would like a copy of that
12 study also.

13 MR. McGAAN: As with all these requests,
14 we'll communicate later about them with respect to
15 the status of your right to have this stuff and its
16 -- other indicia of whether we'll produce it, later.

17 Q. Are you going to rely on any of these tests that
18 were done within the last six months that we have
19 just been talking about in your testimony that you're
20 going to give in this case?

21 A. I may. I don't have to. I mean there's plenty
22 of other information out there I could rely on so I
23 don't think it's necessary that I refer to them. But
24 you just asked me whether or not there were tests
25 done and those -- since those are the most recent

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 things that I've encountered, those are the most
2 recent things that come to my mind.

3 Q. Now is Brown & -- I'm sorry.

4 Is the B.A.T. group still using mouse
5 skin-painting experiments?

6 A. I don't think they've done one in quite awhile.
7 I don't know if they still are. I don't believe so,
8 but I don't really know so --

9 Q. They are still utilizing the Ames test, aren't
10 they?

11 A. Yes.

12 Q. And as a matter of fact, the Ames test is
13 considered a good test of mutagenic potential, isn't
14 it?

15 A. It is -- I don't know what you mean by "good
16 test." It measures a mutagenic response in
17 Salmonella, the strain of bacteria, and in that
18 respect it certainly is a measure of something, it's
19 a measure of some type of biological activity.

20 Q. Well sir, it is a standard -- the Ames test is a
21 standard measure of mutagenic activity, isn't it?

22 A. I would say it's very standard. It's widely
23 utilized.

24 Q. And as a matter of fact it has been utilized
25 since its inception by the B.A.T. group, hasn't it?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. I don't know if it's been --

2 MR. McGAAN: Object.

3 A. It's been used quite awhile. I don't know if
4 it's been used since its inception.

5 Q. Sir, you understand that the Ames test was used
6 for Project RIO; right?

7 A. Yes.

8 Q. What was Project RIO?

9 A. Project RIO was -- had several components, but
10 basically it was a project that was designed to
11 ultimately identify product attributes that
12 influenced biological activity, as measured in the
13 Ames test, with several objectives in mind.

14 One objective was to possibly employ the
15 learnings from this research to modify a cigarette in
16 a way that would have reduced biological activity as
17 measured in the Ames test in hopes that this may be
18 relevant somehow to smoking and health.

19 Q. Before we go too much further, would you define
20 "mutagenic," please?

21 A. Well the way I define it is the ability to
22 induce a mutation, meaning a -- a change in DNA in
23 some test system.

24 Q. And it is thought, isn't it, sir, that this
25 ability to effect a mutation in this test system is a

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 correlation with possible carcinogenicity.

2 A. Well it's felt that -- That's an area that has
3 been -- received a lot of debate and discussion.
4 Based on existing theories of cancer, it's felt that
5 somehow cancer must be related to a mutation because
6 it -- it represents -- it seems to be a change in
7 cell characteristics where you get uncontrolled
8 growth, and so it's been felt that intuitively
9 mutation must be involved, but there's -- there's --
10 there's not complete confidence in that assumption
11 for several reasons.

12 First of all, it's now known that there are many
13 substances that are mutagenic as measured in these
14 tests that are not carcinogenic in long-term chronic
15 carcinogenicity tests. It's also known that there
16 are many substances that aren't mutagenic as measured
17 in those tests and in fact do produce cancer as an
18 endpoint in animal tests. Over the years there have
19 been many attempts to validate the correlation
20 between results measured in the Ames test and results
21 as measured in a long-term animal carcinogenicity
22 test, and as time went on and more substances were
23 included in these tests and larger databases were
24 used, the correlation got poorer and poorer as time
25 went on.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 And a definitive study was done on this by
2 personnel from the National Toxicology Program which
3 showed a couple of things. First of all, it showed
4 that the overall correlation between a response in a
5 mutagenicity test and a response in an animal
6 carcinogenicity test was only about 60 percent. Now
7 given that the test is basically a yes or a no or a
8 plus or a minus, so 50 percent you get automatically,
9 60 percent correlation isn't all that impressive.
10 And what the test also showed was that a battery of
11 tests; namely, if you employ two, three, or four
12 tests as opposed to just one, it didn't seem to
13 really increase the predictive value of the mutagenic
14 response with the carcinogenic response. So right
15 now there's -- isn't really a good sense of what a
16 positive response for a mutation test means, only
17 that it is a measure of some type of biological
18 activity, certainly it's indicative of ability to
19 mutate -- to cause a mutational exchange in
20 Salmonella, which is a strain of bacteria.

21 MS. WIVELL: I'd like to go off the
22 record.

23 THE REPORTER: Off the record, please.

24 (Recess taken from 2:06 to 2:18 p.m.)

25 BY MS. WIVELL:

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Sir, I have now handed you Plaintiffs' Exhibit
2 320, which for the record is Bates numbered
3 109873975.

4 A. Correct.

5 Q. Now before we went on the -- or we went off the
6 record and took a break we were talking a bit about
7 Project RIO. Do you recall that, sir?

8 A. Yes.

9 Q. Now did Brown & Williamson ever have its
10 marketed cigarettes tested in the Project RIO tests?

11 A. I don't know. I know what the basic objectives
12 were from the documents I've read and biological test
13 committee minutes or R&D minutes but I never got into
14 the details of the program, what was tested, what
15 wasn't tested. They may have, I don't know.

16 Q. Could you turn to the second page of Exhibit
17 320, please, and there is reference to Project RIO;
18 correct?

19 A. Yes.

20 Q. Would you read that portion of Exhibit 320 to
21 yourself.

22 A. Okay.

23 Q. Now this particular section of Exhibit 320 says,
24 "B&W are keen to participate in the programme
25 conceived at the BCAC." Have I read that correctly

1 so far?

2 A. Yes.

3 Q. What is the BCAC?

4 A. I don't know what that particular acronym means.

5 Q. Well sir, you just referred a little bit ago to

6 the biological test committee.

7 A. Yes.

8 Q. Doesn't BCAC stand for the biological test

9 committee?

10 A. I don't know. Maybe it does.

11 Q. What do you understand the biological test

12 committee to be?

13 A. My understanding of it doesn't come from

14 firsthand knowledge, it comes from review of minutes

15 from it, and it appears to be a committee that

16 reviewed and evaluated and discussed matters

17 regarding the biological testing of tobacco products.

18 Q. Was this a -- an industry committee?

19 A. From my reading of the notes, it appears it was

20 an internal B.A.T. committee.

21 Q. By "B.A.T." do you mean the B.A.T. group?

22 A. I mean BATCo. Yeah, the B.A.T. group.

23 Q. All right. Now it goes on to say, after it says

24 "B&W are keen to participate in the programme

25 conceived at the BCAC and further developed at the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Research Conference." "They recognise, however,
2 severe legal implications regarding product liability
3 which have" not -- "which have yet to be resolved by
4 the lawyers." Correct?
5 A. That's what the document says, correct.
6 Q. And it goes on and says, "Until guidelines are
7 issued, any contact between GR&DC and B&W should be
8 by telephone." Right?
9 A. That's what it says, correct.
10 Q. Now sir, GR&DC is the Group Research and
11 Development Centre for the B.A.T. group; right?
12 A. For BATCo, I believe, yes.
13 Q. Now it says here, "Two possibilities being
14 considered are...Do not assess the biological
15 activity of commercial US products but use
16 representative blends"; right?
17 A. Yes.
18 Q. And number 2, "Use the commercial products but
19 keep all results in Southampton."
20 A. That's what it says.
21 Q. Now this document was written in 1983, wasn't
22 it, sir?
23 A. It appears so.
24 Q. And sir, you are aware that in the early '80s
25 several lawsuits were brought in the state of New

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Jersey that alleged that smokers had been injured as
2 a result of smoking various cigarettes; right?

3 A. I'm aware that there are a number of lawsuits
4 going on in the mid-'80s. I don't know the details
5 of what states they were filed in.

6 Q. Well you're aware of the -- the Cipollone suit?

7 A. I've heard of it, yes.

8 Q. And, sir, isn't the product liability concern
9 that's expressed here a reflection of Brown &
10 Williamson's interest in keeping information about
11 the biological activity of its marketed cigarettes
12 out of the hands of plaintiffs' lawyers?

13 MR. McGAAN: Object, calls for speculation,
14 argumentative.

15 A. I don't know what they're referring to here when
16 they say -- when they make this statement here in
17 this document. I don't have any direct exposure or
18 contact to this discussion or the reasons for it.

19 Q. Well, sir, have you seen other Project
20 RIO-related documents which indicated that Brown &
21 Williamson's cigarettes were not tested as part of
22 that project?

23 A. No, I haven't.

24 Q. Have you seen other Project RIO-related
25 documents that indicated that the information would

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 be kept in Southampton instead of being transmitted
2 to Brown & Williamson for product-liability concerns?

3 A. Not that I recall.

4 (Plaintiffs' Exhibit 4407 marked for
5 identification.)

6 BY MS. WIVELL:

7 Q. Sir, showing you what's been marked as
8 Plaintiffs' Exhibit 4407, this is a document that
9 begins with the Bates number 109873991; right?

10 A. Correct.

11 Q. Now sir, would you turn to the second page --

12 A. Okay.

13 Q. -- of the document.

14 A. Umm-hmm.

15 Q. There do you see a line above the words "high
16 nicotine tobacco"?

17 A. Yes.

18 Q. And above that line it says, "don't write
19 letters to B&W, phone first, lawyers must decide."

20 A. Yes, that's what it says.

21 Q. And then over on the side it says, BW wants no
22 -- wants to participate and to get data on U.S.
23 products; right so far?

24 MR. McGAAN: Object. I can't read parts of
25 that. Do the best you can, Dr. Appleton.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Whatever --

2 A. Well it's in handwriting and it's a photocopied
3 version so it is poor to make out. I'm sorry, it
4 says -- Could you read that again? "B&W wants," and
5 I can't make out the next line, what that says.

6 Q. Sir, doesn't it say B&W wants to participate and
7 to get data on U.S. products?

8 MR. McGAAN: Object, calls for
9 speculation.

10 A. Well I don't know if it says "to." It looks
11 like it says "participate" below that. I don't know
12 what that line says in the middle.

13 Q. All right. But then does it say "but are
14 concerned with the implications of product
15 liability"?

16 MR. McGAAN: Same objection.

17 A. Well some of the words that you said do seem to
18 say that, other words I just can't make out.

19 Q. Sir, these notations are written under the
20 heading "Project RIO"; right?

21 A. Yes. Up above, yeah.

22 Q. Now sir, have you ever seen any test data that
23 showed that Brown & Williamson's marketed cigarettes
24 were actually tested at -- using the Ames test
25 utilized in Project RIO?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 MR. McGAAN: Object. You asked that
2 already.

3 A. No, I haven't seen any data that indicated that
4 they were or were not.

5 Q. Now you would agree that one of the Project RIO
6 objectives was to produce an acceptable low
7 biological activity, within the 10 to -- or 5- to
8 10-milligram delivery range.

9 A. I don't remember the details of what the tar
10 range was. I do recall that one of the objectives
11 was to produce a cigarette that had reduced Ames
12 activity, and when you say "acceptable" I assume you
13 mean acceptable to smokers, people who would actually
14 find it something that they want to smoke, and that
15 would obviously have to be consistent with the
16 objectives.

17 Q. Well sir, --

18 A. I don't recall the milligram range, though.

19 Q. Well sir, wasn't the reason that Project RIO was
20 undertaken also to try and produce a cigarette which
21 was associated with producing less cancer?

22 A. I don't know if they -- if that -- if that was
23 an objective or not. Only to the extent that, as you
24 indicated, in the -- in the early days when the Ames
25 test was developed it was thought that the mutagenic

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 results may be correlated with carcinogenic results,
2 that there was a higher degree of confidence in the
3 late '70s when the test emerged than there was over
4 time, such as in the mid-'90s when these validation
5 studies suggested that maybe it wasn't. But I don't
6 remember -- I don't have any indication to me that
7 that was the specific objective, was to make a less
8 cancer-producing cigarette.

9 (Plaintiffs' Exhibit 4408 marked for
10 identification.)

11 BY MS. WIVELL:

12 Q. Sir, showing you what's been marked as
13 Plaintiffs' Exhibit 4408, this is a document that
14 begins with the Bates number 512107590; right?

15 A. Yes.

16 Q. It's entitled "PROJECT RIO: STATUS AND
17 DISCUSSION NOTE: JULY 1983."

18 A. Correct.

19 Q. And the objective of Project RIO, according to
20 this document, is to produce an acceptable low
21 biological activity cigarette, in the 5- to
22 10-milligram delivery range; right?

23 A. Yes.

24 Q. And then it says, "The target smoking associated
25 disease is cancer"; right?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Yes.

2 Q. Now sir, there is some information here about

3 the Ames test that's presented at point 7; right?

4 MR. McGAAN: Why don't you take a second

5 and read it, Dr. Appleton.

6 A. Okay. You want me to restrict this to point 7

7 only?

8 Q. Well for the time being --

9 A. Okay.

10 Q. -- let's address point 7.

11 It says there, "A potential weakness of the

12 present programme is the (sole) use of the Ames test,

13 which should be regarded as a good, but not

14 infallible, guide to carcinogenicity"; correct?

15 A. That's what the document says, correct.

16 Q. Now let me ask you this: Do you agree that the

17 Ames test was a good guide to carcinogenicity?

18 A. At this -- At this point I don't know if it's a

19 good guide to carcinogenicity or not. I just simply

20 -- The information is so inconsistent that I don't

21 know if anyone knows the extent to which it's a good,

22 bad or okay guide to carcinogenicity.

23 Q. All right. But you would agree that throughout

24 the years the Ames test has been utilized as a

25 standard reference test which is thought to be a good

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 guide to carcinogenicity; right?

2 MR. McGAAN: Object, vague, calls for
3 speculation.

4 A. As I indicated in my previous response, in the
5 early days when the Ames test was first developed and
6 some initial validation tests suggested a high
7 correlation, I believe at that time it was felt that
8 it was -- it was a good -- that it did correlate well
9 with carcinogenicity, but over the years, as more
10 validation studies have been conducted using larger
11 databases, that -- that sense that the Ames test in
12 fact correlates with carcinogenicity has diminished
13 quite a bit and at this point I don't know if anyone
14 knows what the extent of correlation is or what the
15 extent of relevance is to carcinogenicity.

16 Q. But you would agree that the Ames test is still
17 used by the National Toxicological Program here in
18 the United States as an indicator of potential
19 carcinogenicity.

20 A. I'm not even sure if they would --

21 MR. McGAAN: Object.

22 A. -- if they would represent it as an indicator of
23 potential carcinogenicity. I don't know if they
24 would at this point.

25 (Interruption by the reporter.)

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. It's still used by the National Toxicological
2 Program; right?

3 A. Many tests are, and I don't think they're all
4 regarded as indicators of carcinogenicity.

5 Q. Well it has not been dropped as a test that is
6 being utilized today by the National Toxicological
7 Program; right?

8 A. No, it's still used.

9 Q. And as a matter of fact, you would agree that
10 the Ames test is still in use by various -- or, I'm
11 sorry, strike that.

12 You would agree that the Ames test is still
13 required by various U.S. governmental agencies.

14 A. Yes.

15 Q. As a potential guide to carcinogenicity; right?

16 MR. McGAAN: Object, mischaracterizes the
17 testimony.

18 A. I don't know what its -- by --

19 MR. McGAAN: Calls for speculation.

20 A. On a regulatory-by-regulatory-agency basis, I
21 don't know what their thoughts are on what it's a
22 guide for. I would need to review the testing
23 guidelines of the various regulatory agencies and see
24 what they have to say about that. At this point I
25 don't know if they regard it as a test for potential

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 carcinogenicity or not.

2 Q. Can you direct me to one U.S. governmental
3 agency which has stated publicly that they do not
4 believe that the Ames test is a good guide to
5 carcinogenicity?

6 MR. McGAAN: Object, argumentative.

7 A. No, but I don't think that a regulatory agency
8 would issue that kind of a statement. What I can
9 refer you to is the validation study that was done by
10 staff of the National Toxicology Program within the
11 last, I think 10 years, that indicated that the
12 correlation between Ames activity, in fact several
13 mutagenicity test results and carcinogenicity as
14 measured in a rodent chronic test was not
15 particularly impressive.

16 Q. All right. And what test is that, sir?

17 A. And it was a government agency.

18 Q. What test is that, sir?

19 A. What test is what?

20 Q. You just referred --

21 MR. McGAAN: The study.

22 Q. -- to a study by the National Toxicological
23 Program. What study is that?

24 A. Okay. I think that one is in the -- Well
25 actually several of the ones in the "Principal

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Treatises Relied Upon" are relevant to that but the
2 main one I would refer to is the one by Tennant in
3 Science magazine, "Prediction of Chemical
4 Carcinogenicity in Rodents from In Vitro Genetic
5 Toxicity Assays," May 22, 1987.

6 Q. Now sir, what other list -- what other items
7 from that list of your principal treatises relied on
8 do you believe are relevant to that topic?

9 A. This one here by Mar -- I can't even pronounce
10 the name, Marquardt, "Genetic Toxicology Challenge:
11 The Use of In Vitro Short Term Tests for Predicting
12 Carcinogenicity." And let me just refer back to my
13 statement.

14 MR. McGAAN: By "statement" you mean your
15 expert report, for the record?

16 THE WITNESS: Yes.

17 A. Those two are the principal ones that I've
18 relied on in this particular -- as indicated in this
19 particular document.

20 Q. Well, sir, what other references do you have in
21 your expert report that you believe support that
22 conclusion?

23 A. I think those are the two -- only two that I've
24 got in my expert report.

25 Q. Now sir, turning back to Plaintiffs' Exhibit

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 4408. It says also at point 7, "the paucity of
2 information on the activity of low tar cigarettes
3 using the one well-validated long term test (mouse
4 skin painting) may require a return to this approach
5 at some stage of the project." Right?

6 A. Yes.

7 Q. Was mouse skin painting utilized as part of
8 Project RIO?

9 A. Not that I'm aware of.

10 Q. Well you would agree that the B.A.T. group
11 recognized mouse skin painting as a well-validated
12 long-term toxicological test.

13 A. The B.A.T. group utilized this test in the early
14 '60s because the scientific community had already
15 employed this test, reported results, and it was
16 widely regarded by the scientific community at the
17 time to be perhaps the most relevant test, but as
18 time went on the B.A.T. group recognized that this
19 test in fact wasn't necessarily predictive of effects
20 that may be related to smoking in humans. So I think
21 again their view about this changed and evolved over
22 time so I can't, you know, make an affirmative yes to
23 your statement. In the --

24 Q. Well we know --

25 A. In the beginning they felt confident about it,

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 but as time went on and they had done -- had more
2 experience with it they began to lose confidence in
3 what it was telling them.

4 Q. Well we know that at least in July of 1983 Ray
5 Thornton of Group Research and Development at BATCo
6 thought that mouse skin painting was a well-validated
7 long-term toxicological test; right?

8 MR. McGAAN: Object, vague as to purpose of
9 the validation.

10 A. Well whether or not something's a
11 well-validated, long-term toxicological test is one
12 matter. The extent to which it provides information
13 that is relevant to a human disease under some
14 conditions is a separate matter. "Well validated"
15 may just simply mean there's a standard testing
16 protocol that's been widely used that if you follow
17 that protocol the response will be predictable and
18 you can compare results across laboratory --
19 different laboratories who employ the test. That may
20 very well be what he refers to is that it's something
21 that's been around for a long time, standard protocol
22 exists, there's a lot of history of use and we know
23 what kind of results this test is going to yield and
24 they'll be predictable and reliable and not highly
25 variable. And I would assume he meant that as

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 opposed to that a result in a mouse skin-painting
2 test is -- is going to give us some indication of
3 disease-causing potential in humans.

4 Q. Have you ever spoken with Dr. Thornton about
5 what he meant here in point 7 when he referred to
6 mouse skin painting as a well-validated, long-term
7 test?

8 A. No.

9 Q. So you really don't know what he means when he
10 was referring to this -- to mouse skin painting in
11 this paragraph, do you, sir?

12 A. No. I'm just giving my assumption based on what
13 "validation" means.

14 Q. Sir, but you would agree, though, that mouse
15 skin painting was a toxicological test that was used
16 for many years to try and give an indication about
17 whether material from smoke pyrolysis byproducts was
18 carcinogenic.

19 MR. McGAAN: Object, vague as to who you're
20 talking about.

21 A. It was used as a way to measure progress in a
22 cigarette-modification program such that if one
23 modified a cigarette in a certain way and wanted to
24 know whether or not that modification resulted in a
25 measurable effect that hopefully would be regarded as

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 being positive, with the endpoint being
2 carcinogenicity of the skin on the backs of mice.
3 Whether or not that related to what happened in
4 humans or not no one really knew, but there is a lot
5 of reason to doubt that. But certainly it was used
6 as a measure of biological activity to measure
7 progress in a product-modification program.

8 Q. Well sir, you would agree that the mouse
9 skin-painting studies -- I'm sorry, strike that.

10 You would agree that mouse skin-painting studies
11 were among the evidence that the surgeon general's
12 committee in 1964 looked to in coming to their
13 conclusion that cigarette smoking caused cancer in
14 men; right?

15 A. Yes.

16 Q. And you would agree that mouse skin-painting
17 studies were utilized by the surgeon general's
18 committee in 1979 when they re-looked at whether
19 cigarette smoking caused a variety of diseases;
20 right?

21 A. Yes, I believe they mentioned those effects in
22 every one of their reports.

23 Q. And that was evidence which at least those
24 scientists found to be of some help in addressing the
25 issue about whether cigarette smoking causes disease;

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 right?

2 A. Yes, I think they did think it was of some help,
3 but as I said, there's reasons to believe it may not
4 have been relevant to human lung cancer, for example.

5 Q. Well at least they thought it was relevant,
6 wouldn't you agree, sir?

7 MR. McGAAN: Object.

8 Q. I'm sorry, strike that.

9 Wouldn't you agree that the scientists who
10 worked on the various surgeon general's reports,
11 according to their own words, found the mouse
12 skin-painting results to be important evidence?

13 MR. McGAAN: Object, asked and answered.

14 A. I don't know what their exact words were on how
15 they regarded that evidence. I would assume that
16 they -- they looked at it as an indication of the
17 potential to produce a particular type of an effect,
18 which in this case was skin cancer, in the hopes that
19 possibly that was relevant somehow to human lung
20 cancer. Whether it was or not, no one knows.

21 There were certainly differences about the test
22 that -- that suggested that it wasn't relevant to
23 human lung cancer and the outcome -- there were
24 outcomes that suggested that it was not, but
25 certainly it provided some indication of the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 potential, and I think that that's why it was looked
2 at and relied upon to some extent.

3 Q. You're aware from your evaluation of past BATCo
4 documents that the mouse skin-painting technique was
5 used by the B.A.T. group for years, wasn't it?

6 A. Yes.

7 Q. Sir, are you aware that four different marketed
8 cigarettes that were available in Europe but not in
9 the United States were eventually evaluated by
10 Project RIO?

11 A. No, I didn't know that.

12 (Plaintiffs' Exhibit 4409 marked for
13 identification.)

14 BY MS. WIVELL:

15 Q. Sir, showing you what's been marked as
16 Plaintiffs' Exhibit 4409, this is a document that
17 bears the Bates number 105490841; right?

18 A. Yes.

19 Q. It's entitled "AMES MUTAGENIC ACTIVITY OF
20 MAINSTREAM CONDENSATE OF FOUR COMMERCIAL CIGARETTES
21 FOR BAT CIGARETTEN FABRIKEN GMBH, HAMBURG. FORSCHUNG
22 UND ENTWICKLUNG - PROJECT RIO, REPORT NO. T.154-C
23 RESTRICTED"; right?

24 A. Yes. And let me make a comment. You asked me
25 if I was aware of the four commercial cigarettes that

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 were conducted for Project RIO, and I said no. I
2 have actually seen this document and I recall that
3 this work was done. What I did not remember and
4 connect with this was that it was in connection to
5 Project RIO.

6 Q. All right.

7 A. But, I mean, I have seen this report and I'm
8 aware that this test was done.

9 Q. If we turn to the executive summary on the
10 second page, it begins with the statement, "The Ames
11 test is more and more being requested in the
12 legislation as a guide to mutagenicity such that it
13 is now an essential screen assay in toxicity
14 testing"; right?

15 A. That's what it says.

16 Q. And it goes on to refer to the Ames test as an
17 integral part of Project RIO; right?

18 A. Okay. You lost me now. I'm still on "thus."

19 Q. It says, "Thus as an integral part of PROJECT
20 RIO" --

21 A. Okay.

22 Q. -- "an assessment of the relative mutagenicity
23 of commercial cigarettes from the CAC countries was
24 proposed"; right?

25 A. Yes, that is what it says.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. And the assessment tool that was used to do the
2 assessment of the relative mutagenicity of the
3 commercial cigarettes was the Ames test; right?

4 A. Yes.

5 Q. Now none of the cigarettes that are listed as
6 being tested here were marketed in the United States;
7 right?

8 A. I see Kent, but Kent isn't our brand in the
9 United States. I don't know if any of the blends in
10 these are the same as blends in the United States or
11 not, but I don't think any of these brands are
12 marketed in the United States by Brown & Williamson.
13 They may be sold by whoever these German companies
14 are, I don't know.

15 Q. Could you turn to the page that ends with Bates
16 number 869.

17 A. All right.

18 Q. There at the end it says, "It should be stressed
19 that all these results are relative within this
20 experiment, are based on machine smoked parameters."
21 Have I read that correctly so far?

22 A. Yes, you have.

23 Q. Now what does it mean, "based on machine smoked
24 parameters"?

25 A. When I -- I assume that what they mean is when

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 they collect the smoke it would be collected and then
2 prepared to be presented to the test system, they
3 collect the smoke under conditions specified for the
4 machine collection, which are most likely either ISO
5 standards or FTC conditions, probably ISO standards.

6 Q. By "ISO" you mean I-S-O?

7 A. Yes.

8 Q. All right. What do you refer to when you refer
9 to ISO standards or FTC standards?

10 A. Okay. Well the FTC is the Federal Trade
11 Commission, and they have specified parameters by
12 which cigarettes are tested under a standard
13 condition as a way of measuring deliveries of tar and
14 nicotine, and I don't know if carbon monoxide is
15 required by the FTC but I believe it is in certain
16 countries, so it is a measurement that's made in
17 ISO.

18 What the test calls for is using a particular
19 type of smoking machine to smoke a cigarette by
20 taking a puff every 60 seconds, it specifies the
21 volume of the puff to be taken, the length of time
22 that the puff -- that the puff ought to be taken and
23 the -- how far down the cigarette has to burn before
24 the test is ended, and it also specifies methods of
25 how that smoke will be collected and handled and

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 ultimately tested for the measurement of tar and
2 nicotine.

3 Q. You would agree that for many smokers the amount
4 that they inhale is different from these ISO and FTC
5 parameters; right?

6 MR. McGAAN: Object, asked and answered.

7 A. It very well may be.

8 Q. Now sir, can you direct me to any research that
9 was done as part of Project RIO which would give
10 information on Brown & Williamson marketed cigarettes
11 that were sold in the State of Minnesota?

12 A. And I don't have any. I don't know if they ever
13 did test Brown & Williamson cigarettes in Project
14 RIO.

15 Q. Do you know if Brown & Williamson has ever
16 tested the biological -- I'm sorry, strike that.

17 Has Brown & Williamson ever used an Ames test to
18 determine the relative biological activity of its
19 marketed cigarettes compared with cigarettes marketed
20 by other countries -- companies?

21 A. I'm not aware of that particular comparison. I
22 don't know if they did or not. The one document you
23 showed me indicated that they were keen to do it.
24 Whether they did it or not, I don't know. I've only
25 seen, you know, the reports that I've had available

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 to me.

2 Q. But as you sit here you can't remember seeing
3 any document that indicates it was actually done.

4 A. No.

5 Q. Now sir, would you agree that a cigarette which
6 has a -- Strike that.

7 Would you agree --

8 Do you know what I refer to -- Strike that.

9 Some cigarettes have a smaller diameter than
10 others, don't they?

11 A. Yes.

12 Q. And the cigarettes with smaller diameters are
13 sometimes referred to as "skinny" cigarettes?

14 A. They could be. They could be slim, they could
15 be skinny, they could be smaller circumference.

16 Q. All right. Well let's try cigarettes with
17 smaller circumferences.

18 A. Okay.

19 Q. All right. Are cigarettes which have smaller
20 circumferences lower in biological activity than
21 comparable cigarettes with bigger circumferences?

22 A. Depends upon which test or measure you're
23 referring to.

24 Q. How about the Ames test?

25 A. I believe that they are lower in biological

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 activity as measured by the Ames test.

2 Q. Sir, has Brown & Williamson ever tested the
3 ingredients in its marketed cigarettes in a cigarette
4 which has a design of a smaller circumference?

5 MR. McGAAN: Object, vague as to "tested."

6 A. I don't recall a specific example of that.

7 (Plaintiffs' Exhibit 4410 marked for
8 identification.)

9 BY MS. WIVELL:

10 Q. Sir, showing you what's been marked as
11 Plaintiffs' Exhibit 4410, this is a document entitled
12 "Biological and Sidestream Properties of Low
13 Circumference Cigarettes"; right?

14 A. Yes.

15 Q. For the record, Exhibit 4410 begins with the
16 Bates number 401042556; right?

17 A. Correct.

18 Q. You've seen this document, sir, haven't you?

19 A. I believe I have.

20 Q. And it's one of the documents that you rely on
21 for your first primary opinion, isn't it?

22 A. I believe so, --

23 Q. All right.

24 A. -- without checking.

25 Q. This document is dated June 22nd, 1987.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Yes.

2 Q. One of the things it talks about is cigarettes

3 -- Strike that.

4 One of the things it talks about is the fact

5 that cigarettes with a reduced circumference have a

6 lower biological activity as demonstrated on the Ames

7 test.

8 A. Yes.

9 Q. The --

10 A. Well first of all, can you please point to me

11 where you're reading from?

12 Q. I wasn't reading, sir.

13 A. Okay.

14 Q. All right.

15 MR. McGAAN: Well let me ask the witness,

16 then, to take a moment and read the document before

17 answering questions about what it might mean or say

18 in the abstract.

19 Q. Well let me point you to the introduction, sir.

20 A. Okay.

21 Q. This document refers to "ultra-slim cigarettes"

22 in the introduction; right?

23 A. Yes.

24 Q. That is another way of saying cigarettes with a

25 smaller diameter; right?

STIREWALT & ASSOCIATES

P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

- 1 A. Yes.
- 2 Q. And it says here that they have reduced
- 3 biological activity; right?
- 4 A. Yes.
- 5 Q. And that refers to measurement on the Ames test;
- 6 right?
- 7 A. I'm not sure. I think it may have been actually
- 8 measured in both the Ames test and the mouse
- 9 skin-painting test. What it may be referring to
- 10 here, I don't know, unless it says further into the
- 11 document what it's referring to, which it may.
- 12 Q. Well sir, let me ask you this. Do you believe
- 13 today as you sit here that, all things being equal,
- 14 if you have a cigarette whose ingredients are the
- 15 same, that if you put that cigarette in a paper that
- 16 when rolled has one diameter --
- 17 A. Umm-hmm.
- 18 Q. -- and you put the ingredients in a paper that
- 19 has a smaller diameter, --
- 20 A. Umm-hmm.
- 21 Q. -- the smaller-diameter cigarette will have a
- 22 lower biological activity?
- 23 A. In what test? As measured in what way?
- 24 Q. As measured in the Ames test.
- 25 A. I would need to go back and review that. I'm

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 not trying to be evasive. I recall something about
2 reduced biological activity but I don't know if it
3 was as measured in the mouse skin-painting test or in
4 the Ames test.

5 Q. All right. Why don't you take a moment and read
6 the document.

7 A. Okay.

8 MS. WIVELL: And can we go off the record?

9 (Discussion off the stenographic record.)

10 THE REPORTER: Let's go off the record.

11 (Recess taken from 2:56 to 3:04 p.m.)

12 BY MS. WIVELL:

13 Q. Sir, why don't you take a moment and review that
14 document.

15 A. Okay. Okay.

16 Q. You've read the document, sir?

17 A. Well I've read the parts about biological
18 activity and sidestream smoke in detail, I skipped
19 over some parts like how is the Ames test conducted
20 and the sidestream smoke discussion, assuming -- I
21 wasn't sure if you were going to talk about it or
22 not. If you do, then I would like to go back to
23 that. But if you want to focus on the biological
24 testing and the low-circumference effect, that part I
25 did read in detail.

STIREWALT & ASSOCIATES

P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Without going into how the Ames test was or is
2 conducted, you would agree that it was the state of
3 the art for toxicology testing at the time that this
4 document was written.

5 MR. McGAAN: Object, vague.

6 A. I don't know what you mean by "state of the
7 art," but certainly it was a test that was widely
8 employed as a screening tool. I think that the
9 document describes what they feel it means and what
10 it doesn't mean in here, and they don't say it --
11 they think it has any relevance to carcinogenicity
12 necessarily, but certainly acknowledge it's a
13 screening test, as they call it, for a go, no-go
14 decision or as a test that's done first and then you
15 move on to other tests, just to get an initial sense
16 of what the biological activity might be.

17 Q. And it's also discussed in here that other
18 industries use the Ames test to rank products; right?

19 A. Yes.

20 Q. And you understand that indeed the Ames test has
21 been used to rank the biological activity of various
22 products.

23 A. Yes.

24 Q. And the U.S. Environmental Protection Agency is
25 referred to here as using the Ames test, isn't it,

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 sir?

2 A. Could you please --

3 MR. McGAAN: What page?

4 A. -- direct my attention to where it refers to the

5 U.S. EPA?

6 Q. The bottom of page 561.

7 A. Bates number 561?

8 Q. Yes. There it refers to a "senior scientist at

9 the US Environmental Protection Agency publishing

10 papers" --

11 (Interruption by the reporter.)

12 Q. -- "at the US Environmental Protection Agency

13 having published papers on relative cancer risk

14 assessment based on bioassay rankings including Ames

15 Testing"; right?

16 A. I forgot what your question was.

17 MR. McGAAN: Let me -- I was going to

18 object unless it's a --

19 Q. That is my question.

20 MR. McGAAN: -- or if it's compound if

21 you're extending.

22 A. Okay. Are you asking me if you've read this

23 correctly into the record?

24 Q. Well there is a reference there, sir, isn't

25 there, to a scientist at the U.S. Environmental

STIREWALT & ASSOCIATES

P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Protection Agency having published papers on relative
2 cancer risk assessment that utilized the Ames
3 testing?

4 A. Yes, there is that -- there is a reference to
5 that.

6 Q. Are you familiar with those papers, sir?

7 A. That particular research paper, no.

8 Q. Well it goes on to say "this is being extended
9 to include cigarette main and sidestream smoke";
10 right?

11 A. Well when it says "this," I assume they mean the
12 -- the use of the test for relative ranking
13 purposes, to rank where the biological activity is
14 for comparing different products.

15 Q. And has the U.S. Environmental Protection Agency
16 published papers on mainstream cigarette smoke
17 utilizing the Ames test?

18 MR. McGAAN: Object to the extent it
19 mischaracterizes this document.

20 A. I don't know if they have or not, but that's not
21 how I'm reading this. I'm reading it as the U.S.
22 Environmental Protection Agency has used the Ames
23 test in a way to try to rank biological activity of
24 cigarettes and that the use of the Ames test in
25 ranking has been extended to cigarette mainstream

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 smoke. I don't -- I didn't read it as the U.S.
2 Environmental Protection Agency is testing cigarette
3 smoke and publishing data about it.

4 Q. All right. Well let me ask you this, sir.
5 Did the U.S. Environmental Protection Agency
6 publish any results of tests it might have done to
7 rank the biological activity of cigarette mainstream
8 smoke?

9 A. Not that I'm aware of.

10 MR. McGAAN: Same objection.

11 Q. Sir, having read this document, do you now
12 believe that decreasing cigarette circumference
13 decreases biological activity as expressed in the
14 Ames test?

15 A. Yes. And as I was thinking before, it
16 apparently does in the mouse skin-painting test too
17 because it does refer to that and that's why -- I
18 remember I had recollection of it being done both
19 ways, so apparently from what they're summarizing
20 here, tests were done in both the Ames test and mouse
21 skin-painting test, and I think they even refer to
22 another test too, and in both cases biological
23 activity is reduced. But it also refers to tests
24 that were done by inhalation and indicates that in
25 that test they didn't seem to find any -- any

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 difference in biological activity.

2 Q. Now sir, is Capri a Brown & Williamson
3 cigarette?

4 A. Yes.

5 Q. It refers to tests utilizing the Ames -- I'm
6 sorry, strike that.

7 It refers to results that were obtained
8 utilizing the Ames test which compared Capri to
9 several U.S. cigarettes; right?

10 A. Could you please refer to me where you are
11 reading?

12 Q. Well I'm referring to the paragraph on the last
13 page right above the table.

14 A. "Last page." There's a couple of tables in
15 here. Could you give me the Bates number?

16 Q. The last page of the document, sir.

17 MR. McGAAN: It's 566 is the Bates number.

18 A. Okay.

19 Q. And there is reference in the paragraph right
20 above the table to Capri score -- scoring well
21 against Marlboro, Virginia Slims and Doral; right?

22 A. Yes.

23 Q. And in fact this document gives us data compare
24 -- I'm sorry, strike that.

25 This last page has a table entitled "Comparative

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Ratings on 'Annoyance' Tests" where Capri was
2 compared with Marlboro box cigarette; right?

3 A. Yes.

4 Q. And in all of the parameters that were tested
5 Capri had a lower biological activity; right?

6 MR. McGAAN: Object, mischaracterizes the
7 test.

8 Q. Let me restate the question.

9 In all of the given parameters that was tested,
10 Capri had a lower score on a scale of zero to 10.

11 MR. McGAAN: Object, mischaracterizes the
12 document.

13 A. I don't know -- I don't know if the scale is
14 zero to 10. Oh, it is, a score of zero to 10. It
15 had a lower score on what they're calling "annoyance
16 tests."

17 Q. Now you would agree that the diameter of Capri
18 is smaller than Marlboro.

19 A. Than Marlboro box, yes.

20 Q. It is smaller than Virginia Slims.

21 A. I believe so.

22 Q. And the diameter of Capri is smaller than Doral;
23 right?

24 A. I believe so.

25 Q. And in all of the tests that are discussed in

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 which Capri was compared to these other cigarettes,
2 Capri scored better, didn't it?

3 MR. McGAAN: Object, vague -- It's just
4 vague as to what tests.

5 A. You mean the tests in this particular table or
6 all the things that were discussed in this document?

7 Q. The tests in the document.

8 A. In the document well --

9 MR. McGAAN: Then same objection.

10 A. I think I just indicated that it was not
11 different from a standard circumference cigarette in
12 the inhalation test.

13 Q. All right. But the other two tests it did --

14 Capri did score lower on the Ames and the mouse
15 skin-painting test; right?

16 A. Yes.

17 Q. All right. Sir, has Brown & Williamson ever
18 claimed publicly that its marketed cigarette, Capri,
19 was lower in biological activity?

20 A. Not to my knowledge.

21 Q. Why not?

22 A. I don't know why not. I can only offer
23 speculation.

24 Q. Well isn't it true, sir, that the reason that
25 Brown & Williamson has not told the public that

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Capri --

2 By the way, Capri's still marketed, isn't it?

3 A. Yes.

4 Q. Isn't it true that the reason Capri is not
5 marketed by Brown & Williamson is that there is an
6 industry agreement not to make health claims for
7 marketed cigarettes?

8 A. I'm not aware of any such agreement.

9 Q. So that if that agreement exists, you're not
10 aware of it; is that right?

11 A. That's correct.

12 Q. Are you aware of efforts that Brown & Williamson
13 made in the late '60s and early '70s to obtain
14 agreement from other cigarette manufacturers in the
15 United States not to try and develop techniques for
16 reducing biological activity in cigarettes?

17 A. Could you repeat your question, please?

18 Q. Are you aware of efforts that Brown & Williamson
19 made in the late '60s and early '70s to obtain
20 agreement from other cigarette manufacturers in the
21 United States not to try and develop techniques for
22 reducing biological activity in marketed cigarettes?

23 A. I'm not aware of any such agreements.

24 Q. Sir, showing you what's previously been marked
25 as Plaintiffs' Exhibit 942, this is a document you've

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 seen before, isn't it?

2 A. I believe so.

3 Q. Would you turn --

4 For the record, Exhibit 942 is Bates numbered
5 100428127; right?

6 A. Correct.

7 Q. If you turn to the third page of the document,
8 it says there in the third-to-the-last paragraph, "On
9 the whole, the U.S. industry was still united, but
10 L & M," that refers to Liggett & Myers; right?

11 A. I assume so.

12 Q. That's how Liggett & Myers is often referred to,
13 isn't it?

14 A. I think so.

15 Q. So it says, "On the whole, the U.S. industry was
16 still united, but L & M was developing a technique
17 for reducing biological activity by direct spraying,
18 and" Brown & Williamson -- "and B&W was attempting to
19 get agreement from the other companies not to pursue
20 this line. The danger was that one company might get
21 some form of endorsement" for the -- "from the
22 Government for this technique."

23 Did I read that correctly?

24 A. Yes, you did.

25 Q. Sir, isn't it true that the industry has -- the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 cigarette industry in the United States has agreed
2 not to market any cigarette as having reduced
3 biological activity?

4 MR. McGAAN: Object, lacks foundation with
5 respect to this document, and it mischaracterizes
6 this document.

7 A. I don't know if that's true or not, but it
8 certainly isn't consistent with my own observation
9 since I've been with the tobacco industry.

10 Q. Well sir, you worked on Premier, didn't you?

11 A. I had some contact with Premier, not a lot.

12 Q. Premier was an RJR cigarette one of whose
13 purposes was to develop a product that had lower
14 biological activity; right?

15 A. I believe one of the objectives was to develop a
16 cigarette with reduced activity in certain biological
17 tests.

18 Q. And sir, you would agree that R.J. Reynolds,
19 after they developed Premier, never marketed it as
20 having a lower biological activity.

21 A. I believe that's true. I don't think they made
22 any claims regarding the health effects of the
23 cigarette.

24 Q. They never claimed it was a safer cigarette;
25 right?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. No, they didn't.

2 Q. Now you don't know why they never claimed it had
3 lower biological activity, do you?

4 A. No, I don't know why.

5 Q. Now sir, if we turn to the page that ends with
6 Bates number 132, I would like you to read the first
7 complete paragraph to yourself.

8 A. The -- Which paragraph?

9 Q. First complete paragraph that begins "The
10 existing industry."

11 MR. McGAAN: Could you begin, Dr. Appleton,
12 on the prior page, which begins this section you're
13 being directed to?

14 THE WITNESS: Which begins with where;
15 "Germany"?

16 MR. McGAAN: Beginning, well, middle of the
17 page so you can see the context in which it's -- this
18 statement is being made.

19 A. Okay.

20 Q. Now that paragraph contains the sentence, quote,
21 "There was, of course, an industry agreement that no
22 health claims should be made." Right?

23 A. Yes, it says that, and it --

24 Q. And it's under the heading "Germany," isn't it,
25 sir?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Yes.

2 Q. And isn't it a fact that there was a similar
3 agreement in the United States made by the industry
4 that no health claims would be made by any company
5 for any of its cigarettes?

6 MR. McGAAN: Object, lacks foundation.

7 A. It appears that the context of this is one where
8 there is a voluntary industry code that -- that there
9 is an agreement between industry and the government
10 authorities that industry would not make health
11 claims, and I presume this was at the desire of the
12 authorities.

13 And also I have recollection that the Federal
14 Trade Commission also expressed concern about what
15 they viewed might be health claims when various
16 cigarettes were being developed and that had reduced
17 tar deliveries, and the Federal Trade Commission was
18 concerned that such claims -- that even advertising
19 reduced-tar deliveries in certain ways may be
20 construed as health claims.

21 From my own personal experience, even recently,
22 R.J. Reynolds has marketed a cigarette that has no
23 additives, and while they don't make a health claim,
24 I've already seen attacks in the press where just the
25 mere description of the product which is a factual

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 statement, "contains no additives," is being
2 construed as a health claim and of course is being
3 turned against them.

4 It would not surprise me, if we market a
5 cigarette and made a claim of no or lower biological
6 activity, that we would immediately be attacked as
7 being -- that being an implied health claim, we would
8 be asked to substantiate our claim and I'm not sure
9 what other actions would take place but I'm sure it
10 would be immediate and it would be severe.

11 Q. Well sir --

12 A. That alone in my view, I don't know if this is
13 the reason why we did not do it, but from my
14 understanding of events that have surrounded the
15 tobacco issue, if I were making the decision I
16 wouldn't want to make a health claim given those
17 circumstances either.

18 Q. Well sir, isn't it also true that since the
19 early '60s one of the reasons that the B.A.T. group
20 didn't make any health claims for its cigarettes
21 because -- was because of the concern that if they
22 did market a cigarette which had a reduced biological
23 activity or which they claimed was healthier, by
24 doing so it would admit that some of its -- their
25 products already on the market might be harmful?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. That's not consistent with my understanding. My
2 understanding is that the reason was because we
3 simply didn't know. We -- This document that Ray
4 Thornton or, I'm sorry, that Alan Heard authors
5 provides --

6 MR. McGAAN: Cite the exhibit number as --

7 A. I'm sorry. Exhibit number 4410 provides several
8 examples of where data is conflicting, goes in
9 opposite directions, and at the end of the day when
10 you run a gamut of tests and some tests are positive,
11 some are negative; for example, if you test
12 flue-cured tobacco in the Ames test as they indicate
13 here, it's lower activity than in burly but the
14 opposite is the case in the skin-painting test.

15 The same thing occurs when you try to measure
16 different constituents and try to effect a change in
17 a particular constituent. At the end of the day when
18 you run these tests the results are so complex and
19 convoluted and frequently contradictory you simply
20 don't know whether or not you've really made a
21 positive change or not. And it would be, in my view,
22 irresponsible to make any kind of a statement or
23 claim to the public given just a reduction in Ames
24 test or reduction in mouse skin-painting test.

25 Q. Sir, showing you what's been marked as

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Plaintiffs' Exhibit 1133, this is a document you've
2 seen before, isn't it?

3 A. Yes.

4 Q. You've read this document.

5 A. Yes, I have.

6 Q. For the record, Plaintiffs' Exhibit 1133 begins
7 with the Bates number 110070785; right?

8 A. Correct.

9 Q. And sir, this document contains the statement
10 concerning safer cigarettes that -- I'm sorry, strike
11 that.

12 This document concerns a discussion about
13 whether the B.A.T. group should market a safer or a
14 lower biological activity cigarette; right?

15 A. Could you direct me to the statement, please?

16 Q. Well, sir, do you recall that?

17 A. I'd have to look at it to see what the
18 context --

19 Q. Well, do you recall?

20 A. This is a lengthy document, it had a lot of
21 discussion in it about a lot of things.

22 Q. Well sir, in expressing the opinion you gave to
23 us just a few moments ago did you consider this
24 document where it says, concerning a safer or lower
25 biological activity cigarette, that if the B.A.T.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 group marketed it, quote, it did -- "...it would be
2 admitting that some of its products already on the
3 market might be harmful. This would create a very
4 difficult public relations situation"?

5 A. Could you please refer to me where you're
6 reading?

7 Q. Well sir, I'm just asking you, before we go to
8 the document, whether you considered that statement
9 from this document in giving the opinions you
10 expressed here just a few minutes ago.

11 MR. McGAAN: Object. He has no way of
12 knowing what statement you're talking about unless we
13 can take a minute and try to find it.

14 A. I didn't remember that particular statement from
15 this particular document. This is a lengthy
16 document, I have read a lot of documents. I'm really
17 referring to my own experience since I've been in the
18 industry and what -- what my experience has lead me
19 to believe, not what a document written in 1962, what
20 a statement in that document says.

21 Q. Well let me ask you this: Have you in your
22 review of B.A.T. group documents seen the letter that
23 Sir Patrick Sheehy wrote to a gentleman in Canada
24 that said essentially we can't make a safer cigarette
25 because if we do so it might imply that the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 cigarettes we are already marketing are unsafe?

2 MR. McGAAN: Object, that's not what that
3 document says, and it's unfair to question the
4 witness on it.

5 A. I don't recall that specific statement.

6 Q. Do you recall any document by Sir Patrick Sheehy
7 that addressed the issue of funding for a safer
8 cigarette?

9 A. No, I don't.

10 Q. Well sir, in your expert opinion you say,
11 "Despite a long and extensive effort, BATCo and
12 Brown & Williamson, like all members of the industry
13 and all independent scientists, have not yet
14 identified a cigarette that is consistently lower in
15 biological activity and is acceptable to consumers";
16 correct?

17 A. Yes.

18 Q. Now sir, were you aware of funding restrictions
19 that Sir Patrick Sheehy put on funding of a safer or
20 a lower biological activity cigarette when you made
21 that statement?

22 MR. McGAAN: Object, it's not true.
23 Object, there's no fact in evidence to support such a
24 proposition.

25 A. I'm not aware of such a funding restriction, it

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 certainly isn't consistent with my observation of --
2 of what probably represents multimillions of dollars
3 worth of research into what would be hopefully
4 regarded as a safer cigarette, as the documents
5 indicate.

6 Q. Well sir, isn't it true that one of the reasons
7 that the B.A.T. group, including Brown & Williamson,
8 have not developed a cigarette which they have
9 marketed to the public is because of product
10 liability or legal concerns?

11 MR. McGAAN: Object, mischaracterizes the
12 witness' testimony on that issue.

13 A. I don't have any direct experience with that.
14 That's not consistent with my understanding and
15 experience within the industry.

16 Q. All right. Let's turn to the page that's Bates
17 numbered -- ends with 818 of Exhibit 1133.

18 A. 818?

19 Q. Yes.

20 A. All right.

21 Q. Sir, there is reference to a statement by Mr.
22 McCormick; right?

23 A. Well it looks like two statements by Mr.
24 McCormick. Which one are we referring to?

25 Q. Well let's direct your attention to the second

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 one, sir.

2 A. All right.

3 Q. It says there, "Mr. McCormick continued that by
4 his question he was seeking to explain why, for some"
5 reason -- or "for some years, the industry had found
6 it hard to play about with gimmick cigarettes,
7 because if it did so it would be admitting that some
8 of its products already on the market might be
9 harmful. This would create a very difficult public
10 relations situation." Right?

11 A. That's what the document says, yes.

12 Q. And if we were to read back we would see that
13 what he is referring to is Dr. Green's suggestion
14 that the industry try to develop a cigarette which
15 was healthier.

16 MR. McGAAN: Object, I'm not -- I don't
17 believe the document says that. Maybe he could have
18 a second to read a couple pages to --

19 A. Well could you please show me Dr. Green's
20 statement that you say he's referring to?

21 Q. Well Dr. Green's statement begins at page 29.
22 Why don't you read up -- up to that quote we just
23 read into the record from Mr. McCormick.

24 A. All right. All right.

25 Q. Sir, Mr. McCormick's comments follow Dr.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Green's, don't they?

2 A. Yes, they do.

3 Q. And among Dr. Green's comments he makes the
4 statement, we should also aim to remove from the
5 product, if we could readily do so, whatever smoke
6 constituent was currently thought to be undesirable
7 quite regardless of any biological test; right?

8 A. I'm sorry, could you point to me where that
9 quote is?

10 Q. Yes, sir, on page 30.

11 MR. McGAAN: Page 30.

12 A. Okay. Yes, it says that, and then it goes on to
13 say, "At this level even a chemical engineer could
14 make a useful contribution but we should not delude
15 ourselves that this was fundamental research."

16 To me what he's saying is, if someone is
17 pointing their finger at a constituent we should just
18 remove it whether we believe it -- whether we know or
19 not it has any fundamental effect on health effects.
20 If someone says that that's an important constituent
21 to remove, that's what we ought it to do.

22 Q. And Dr. Green went on to say, "We were not doing
23 anything at the present at this level"; right?

24 A. That's correct.

25 Q. And after some discussion Mr. McCormick goes on

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 to make his comment about if that was done it would
2 admit that some of the products already on the market
3 might be harmful; right?

4 MR. McGAAN: Object, mischaracterizes the
5 document.

6 A. He does make that comment. Obviously he was
7 thinking about that, but the reality is is what --
8 isn't what Mr. McCormick said in 1962 but what
9 actually happened. And what actually followed this,
10 first of all the proper context of this is he's
11 giving an address to a group of people about a
12 massively funded research program which he's
13 proposing to address the broader smoking-and-health
14 issue. So here he's saying we need to do research
15 and we need to spend enormous amounts of money to try
16 to get to the bottom of the issue, and what in fact
17 followed was that research in the fundamental area
18 through -- primarily through the TIRC, and then what
19 also followed was a massive research effort by BATCo
20 trying to identify aspects of its products that could
21 be modified in a way that would be thought to be
22 positive. The documents demonstrate that, that there
23 have been literally dozens and dozens of tests,
24 millions -- multimillions of dollars worth of tests
25 and research to try to achieve that goal.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 So yes, Mr. McCormick made this statement, he --
2 a lot of people were thinking about a lot of things
3 at that time. I think what's important is not what
4 he said in 1962 but what actually happened, what
5 BATCo actually did.

6 Q. Well sir, isn't it true that in the intervening
7 years the product-liability implications played a
8 larger role than the science in determining what
9 would be said to the public about safer or reduced
10 biological activity cigarettes?

11 MR. McGAAN: Object, compound, vague.

12 A. Well, you know, you're saying a "larger"
13 effort. I don't know if I can rate it as larger or
14 smaller or what. All I can tell you is that my
15 experience is is that in the intervening years the
16 research effort continued, and continues to this day
17 to try to understand aspects about our product that
18 are in any way responsible for the alleged health
19 effects associated with cigarettes, with the aim of
20 trying to fix it, if possible.

21 Q. Sir, showing you what's previously been marked
22 as Plaintiffs' Exhibit 745. This is a document
23 entitled "Draft Paper for 1980 Tobacco Division
24 C.A.C., CURRENT ISSUES IN SMOKING AND HEALTH."
25 Right?

 STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. I'm sorry, could you please repeat the exhibit
2 number and Bates number?

3 Q. Exhibit 745 is entitled "Draft Paper for 1980
4 Tobacco Division C.A.C., CURRENT ISSUES IN SMOKING
5 AND HEALTH"; right?

6 A. Yes.

7 MR. McGAAN: Do you have another copy?

8 Q. For the record, it's Bates number 109 --

9 MR. McGAAN: Thanks.

10 Q. -- 881374; right?

11 A. Yes.

12 Q. And this document is one that you have seen
13 before too, isn't it, sir?

14 A. I believe I have.

15 Q. Why don't you take a moment and review it if you
16 could quickly, please.

17 Sir, I'm really only going to be asking about
18 the first couple of pages.

19 A. All right.

20 Q. You've read those, haven't you?

21 A. I've read the first two pages.

22 Q. All right. One of the issues that's addressed
23 in those pages is the development of low-tar-delivery
24 products; right?

25 A. Yes.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Now let me ask you this: Are low-tar-delivery
2 products safer biologically?

3 MR. McGAAN: Object, vague.

4 A. What do you mean by "biologically"?

5 Q. Well on the biological tests that we've been
6 looking at, do they have reduced biological
7 activity?

8 MR. McGAAN: Object, vague.

9 A. They deliver less total tar, so if you're --
10 Let's say you're testing a low-tar cigarette in the
11 Ames assay, if you put it -- let's say you have a
12 six-milligram cigarette and compare it to a
13 full-flavored cigarette which might be a 17-milligram
14 cigarette. Obviously if you put in less total amount
15 of tar there'll be less response; however, the
16 biological response on a per-unit tar basis may not
17 be less. So it depends upon how you measure it and
18 what you mean and what test you're -- you're asking.

19 Q. Why might the per-unit tar basis not be less,
20 sir?

21 A. There's some test results in the Ames test which
22 indicate that on a per-unit tar basis smoke
23 condensate may actually be slightly more active from
24 a -- a highly ventilated filtered cigarette than a
25 nonventilated filtered cigarette.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Let me ask you this, sir, would you --

2 A. And I'm referring to test results in an Ames
3 test now.

4 Q. Would you agree that a smoker who smokes a
5 low-tar, low-nicotine cigarette and compensates, as
6 we have discussed earlier in this deposition smokers
7 might do, would actually inhale more tar while
8 compensating?

9 A. If the assumption --

10 MR. McGAAN: If that's the end of the
11 question, I object, it's vague.

12 A. If the assumption is they're compensating, you'd
13 need to tell me how much they're compensating.

14 Q. Well if a smoker compensates to try and --
15 Strike that.

16 If a smoker compensates smoking a low-tar,
17 nicotine cigarette in order to increase his or her
18 intake of nicotine, you would agree that they are
19 receiving more tar than the FTC smoking-machine
20 figures would indicate.

21 MR. McGAAN: Object, compound.

22 A. It depends upon how much they compensate.
23 Compensate 2 percent, 20 percent, 300 percent. How
24 much? I mean, people could behave in very different
25 ways.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Do you mean if they compensate all the time or
2 if they compensate, you know, at any particular
3 time. For every single cigarette. If they
4 compensate by smoking more cigarettes or by taking
5 larger puffs.

6 There's no way I can make an absolute statement
7 without getting some more information about the
8 extent to which and the nature of the compensation
9 that we're referring to.

10 Q. All right. Well let's say that a smoker
11 compensates by taking bigger and more puffs of a
12 low-tar cigarette. You would agree that under those
13 circumstances they will be inhaling more tar than the
14 FTC smoking-machine figures would indicate.

15 MR. McGAAN: Object, vague.

16 A. For a particular cigarette, assuming they're not
17 smoking more cigarettes -- You're saying if --

18 What you're basically saying is if a person
19 smokes larger puffs, takes larger puffs and more
20 often and inhales with equal depth, because they may
21 be taking a bigger puff but not inhale as much --
22 What you're saying is if they're taking in more
23 smoke, are they taking in more smoke.

24 Q. Well if they're taking in more smoke, they are
25 taking in more tar, aren't they?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Well yes.

2 Q. And they would be taking in more tar than the
3 FTC smoking-machine figures would indicate; correct?

4 MR. McGAAN: Object.

5 A. If they're taking in more tar than what's
6 measured by the FTC smoking-machine numbers, then
7 they are taking in more tar than what's measured by
8 the FTC smoking numbers. That's what you're saying.

9 Q. Well sir, if they're compensating they're
10 taking --

11 If they're compensating in the way we've just
12 discussed, they're taking in more tar than the FTC
13 smoking figures would reveal; right?

14 MR. McGAAN: Object, vague.

15 A. But in essence what you're saying is if they're
16 taking in more smoking and inhaling it, they're
17 taking in more smoke and inhaling it.

18 I'm not trying to be argumentative, what I'm
19 saying is different people do different things that
20 isn't necessarily measurable or observable by the FTC
21 method. Just because a person takes a larger puff or
22 more frequent puff --

23 (Interruption by the reporter.)

24 A. -- does not mean they're taking in all of that
25 smoke. They may let some of it escape out their

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 mouth before they inhale, they may let some of it
2 blow out their nose before they inhale, they may
3 inhale and exhale more quickly than with a smaller
4 puff.

5 It's hard to say, but it -- in essence in
6 premise if you're saying that if a person is taking
7 in a larger puff and more smoke than what the FTC
8 test says, they may take in more smoke. It may or
9 may not be more than a full-flavored cigarette, it
10 may or may not be more than what the FTC estimated
11 value is.

12 Q. Well let's put it this way, sir. If a person
13 smokes a low-tar, low [sic] cigarette, are they
14 smoking a healthier cigarette?

15 A. I don't know if anyone knows that.

16 Q. Well would you agree that it would be improper
17 to imply that a low-tar low-nicotine cigarette is a
18 healthier cigarette?

19 A. It depends upon the context of what somebody's
20 asking. I mean that question has been asked,
21 opinions have been given in various contexts such as
22 the surgeon general's report in 1990, people reviewed
23 data, people made statements about in study X, Y or
24 Z, lower relative risks were observed for lung cancer
25 for people who smoke low-tar cigarettes. I don't

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 know if that's an implication of a healthier
2 cigarette or merely a statement of research that's
3 out there. I don't -- I don't -- I would not make a
4 health claim regarding a low-tar cigarette. I would
5 not claim it's a healthier cigarette.

6 Q. All right. Well you say here in your first
7 primary opinion in your expert opinion that "Despite
8 long and extensive effort, BATCo and Brown &
9 Williamson, like all members of the industry and all
10 independent scientists, have not yet identified a
11 cigarette that is consistently lower in biological
12 activity and is acceptable to consumers"; right?

13 A. Yes.

14 Q. All right. Now are low-tar, low [sic]
15 cigarettes biologi -- lower in biological activity?

16 MR. McGAAN: Object. I think we went over
17 it. Asked and answered.

18 A. Yeah, I did answer that question.

19 Q. And what's the answer, sir?

20 A. Depends upon the test that you're using and --
21 and in what way you're expressing the measure of
22 biological activity.

23 Q. Now you have cigarettes -- by "you" I mean Brown
24 & Williamson, has low-tar cigarettes on the market;
25 right?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Yes.

2 Q. They are cigarettes that have a consistently
3 lower biological activity as shown by the tests that
4 we have been discussing today; right?

5 MR. McGAAN: Object, vague.

6 A. No, they're not. It's not consistently lower
7 biological activity.

8 Q. Now sir, would you agree that any claims that
9 were made that low-tar, low-nicotine cigarettes had
10 lower biological activity would be incorrect?

11 A. No. It depends upon what the context of the
12 claim is and the conditions that are specified for
13 it. I do think it would be incorrect to make a claim
14 that a low-tar cigarette is a healthier cigarette for
15 people to smoke, but if -- if the claim were that a
16 lower-tar cigarette may have lower biological
17 activity as defined in a particular test under a
18 given set of test conditions and as expressed in a
19 particular way, it may be an accurate statement.

20 Q. Well sir, let me ask you this. If Brown &
21 Williamson implied that low-tar, low [sic] cigarettes
22 were healthier for people to smoke, you would say
23 that would be not correct; right?

24 MR. McGAAN: Object, vague.

25 A. It depends upon the circumstances of what

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 they're saying, how they're saying it, who they're
2 saying it to and what's being said. For example, if
3 someone asked them -- If someone asked me in a press
4 release or a press statement has there been any
5 research done on low-tar cigarettes and what their
6 health effects are, I'd say yes, and I may even refer
7 to epidemiological studies that I'm familiar with and
8 make a factual statement. I don't -- I wouldn't want
9 that to be taken as an implication or a health claim
10 or a health warranty. I would need to see a
11 statement and need to see what the context and the
12 circumstances of that statement were.

13 Q. Well sir, would you agree that it would be wrong
14 for Brown & Williamson to imply that its low-tar,
15 low-nicotine cigarettes were healthier cigarettes?

16 MR. McGAAN: Object, asked and answered.
17 This is harassing. You can answer it again.

18 A. Well it depends upon what's being asked, what
19 the context is and what the circumstances of the
20 question are. I can't -- I just can't make a
21 yes-or-no answer without knowing what the
22 circumstances of -- of the -- of the statement are
23 that we're talking about. You're giving me a
24 hypothetical question.

25 Q. Well sir, let's say that the implication was

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 made in an advertisement for a cigarette which has
2 been marketed by Brown & Williamson which is, quote,
3 low-tar, low-nicotine. Is it your opinion that it
4 would be proper to claim or imply for any of Brown &
5 Williamson's low-tar, low-nicotine cigarettes that
6 they are healthier?

7 MR. McGAAN: Object, compound, assumes
8 facts not in evidence.

9 A. I -- I would not recommend making a health claim
10 in an advertisement that stated that a low-tar
11 cigarette was a healthier cigarette.

12 Q. You would also not recommend making -- I'm
13 sorry, strike that.

14 You would not recommend putting out an
15 advertisement that implied that low-tar, low-nicotine
16 cigarettes were healthier, would you, sir?

17 MR. McGAAN: Object, vague, lacks
18 foundation.

19 A. I would have to see an example of the
20 advertisement because "imply" is a vague word, and as
21 I discussed before, I've already seen advertisements
22 by R.J. Reynolds attacked because they made a
23 statement that they were additive free. People said
24 that implies a health claim. In my view it doesn't
25 imply a health claim, it's a statement of fact.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 So at this point I don't think I could -- I can
2 say yes or no without you precisely defining what you
3 mean by "implied," or what I'd prefer to do is see an
4 example of something and give you my opinion on it.
5 So if you have a specific example in mind, I'll be
6 happy to give you an opinion.

7 Q. Well let me ask you this, sir. Is menthol good
8 for the throat?

9 A. I don't know if it's good for the throat or
10 not. It has -- It has a specific sensory effect, it
11 has a cooling effect. I don't know if that's good or
12 if it's not good.

13 Q. Well to the best of your knowledge, though, do
14 you believe it is correct to imply -- Would it be --
15 Strike that.

16 Would it be correct to imply that low-tar,
17 low-nicotine cigarettes that have been marketed by
18 Brown & Williamson are safer?

19 MR. McGAAN: Object, asked and answered.

20 A. Ma'am, I believe I answered your question.
21 Given that the word "imply" is so subjective and is
22 so subject to wide interpretation by different
23 people, without having a specific example for me to
24 look at and to comment on I just can't answer that
25 question. If you have a specific example in mind

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 you'd like me to comment on, I'd be happy to give you
2 my opinion.

3 Q. Well how do you define the word "imply," sir?

4 MR. McGAAN: Object, this is
5 argumentative.

6 A. I haven't really thought about it. I would have
7 to spend some time thinking about "imply." It's like
8 saying how would you define "love." I don't know.

9 Q. Well you would agree at least that if -- that it
10 would be inappropriate to make health claims that
11 low-tar, low [sic] cigarettes are healthier.

12 MR. McGAAN: Asked and answered. You have
13 to answer it again, though.

14 A. I think I expressed my view. I would not make a
15 recommendation to advertise a reduced-tar product as
16 a safer cigarette or a healthy cigarette.

17 Q. Now sir, you have characterized the effort to
18 develop a safer cigarette in your first primary
19 opinion here, haven't you, sir, in Exhibit 4400?

20 A. Yes, and could you please refer me to the
21 passage -- passages that you're referring to?

22 Q. Well the first paragraph under "Primary
23 Opinions."

24 A. Okay.

25 Q. Now sir, getting back to the issue I was talking

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 about before, you -- you say here "there is a long
2 and extensive effort"; right?

3 A. Yes.

4 Q. Well isn't it true that legal considerations
5 played a large role in that effort?

6 A. From the review of documents that I -- I looked
7 at, I couldn't see any evidence of that. I looked at
8 many research reports which laid out a very extensive
9 program starting from the mid-'60s which continues
10 today, and what it shows evidence of is that -- that
11 BATCo and B&W and other companies within the B.A.T.
12 tobacco companies made a huge effort to try to
13 understand virtually all aspects of its products that
14 may be related to either smoke chemistry that was
15 thought to be relevant to the problem, or to
16 biological tests or any other matter that was within
17 its power to investigate.

18 To the extent that legal matters -- certainly
19 legal matters are issues that are relevant within the
20 tobacco industry. To the extent that legal matters
21 influenced those efforts, I can't tell. All I can
22 tell is what was done, and what was done, in my view,
23 is an extensive effort.

24 Q. Are the costs for this huge extensive effort
25 that were borne by B&W reflected in their R&D

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 expenditures?

2 A. I've seen some documents that -- that do refer
3 to budgetary matters. I don't know if all the costs
4 are in there, but certainly I have reviewed documents
5 that do refer to budgets and costs.

6 Q. And the costs for the effort that you're
7 referring to in your first opinion under the heading
8 "Primary Opinion" would be found under Brown &
9 Williamson's R&D expense, research and development;
10 right?

11 A. I don't believe all the costs of that effort
12 would be -- would be found there.

13 Q. Where else would they be found, sir?

14 A. I don't really know, but since much of this
15 research was conducted by BATCo, I wouldn't imagine
16 that those costs would be reflected in Brown &
17 Williamson budgets.

18 Q. Well you understand that Brown & Williamson is
19 billed for a portion -- or for its portion of BATCo's
20 expenses; right?

21 A. I don't know if it's billed for all of BATCo's
22 expenses, I don't know if it's -- which -- I don't
23 know really enough about whatever cost-sharing
24 agreements are out there, how long those agreements
25 have existed and what particular portions of BATCo

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 work that B&W funds. I just don't know enough about
2 that to be able to say that -- that the expenses, the
3 total expenses of the program over a 40-year period
4 would be reflected in Brown & Williamson budget
5 statements.

6 Q. All right. Well you would agree, sir, wouldn't
7 you, that at least Brown & Williamson's portion of
8 those expenses would fall under the category of
9 research and development?

10 A. I don't know.

11 MR. McGAAN: Object, vague. If you're
12 talking about a specific document, it's not clear.

13 Q. Now sir, can we turn back to Exhibit 745. That
14 is the paper entitled "CURRENT ISSUES IN SMOKING AND
15 HEALTH."

16 A. Yes.

17 Q. It starts with the statement, "Undoubtedly, the
18 most encouraging recent development" is the
19 controversy -- "in the controversy over smoking and
20 health has been the recognition by scientists and
21 medical authorities that modern developments in
22 low-tar delivery products imply that smokers may be
23 exposed to a greater reduced risk compared with that
24 incurred by smokers 20 years ago." Right?

25 A. Yes, you read that statement correctly.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. All right. Now sir, do you know what that
2 refers to?

3 A. Let me read it one more time.

4 Well they're talking about controversy of
5 smoking and health and they're talking about
6 recognition by scientific and medical authorities.
7 What -- My understanding of that is that the
8 cigarette industry has been encouraged by many
9 government authorities like the Independent
10 Scientific Committee, by the surgeon general and
11 independent scientists to reduce delivery -- the
12 deliveries of its cigarettes in the hopes that a
13 general reduction in deliveries may be beneficial.
14 And also I believe that for people who choose to
15 smoke, they have also received encouragement from the
16 public health and government authorities that if they
17 choose to smoke that they ought to smoke a
18 lower-delivery product. I think that might be an
19 implication that such reduced-delivery products may
20 be beneficial from a health-effects point of view.
21 Q. Now sir, if we go to the second page of the
22 document, under point 3 it says, Paradoxically, the
23 encouraging developments outlined above have thrown
24 up the greatest weakness in the controversy. For
25 legal reasons, which are easy to appreciate, the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 industry is unable to claim credit for these
2 developments or to use the results directly in any
3 campaign to popularise the smoking of low delivery
4 products." Have I read that correctly?

5 A. Yes, you have.

6 Q. Now sir, isn't it true that legal
7 considerations, as are reflected here, dominated
8 this, quote, long and extensive effort that you
9 referred to in your first primary opinion?

10 MR. McGAAN: Object, mischaracterizes the
11 document, vague as to which legal reasons.

12 A. Also I think I already answered the question,
13 which is the document here refers to legal
14 considerations. I can't imagine that there weren't
15 legal considerations of all sorts of matters within
16 the tobacco industry given the nature of the lawsuits
17 that -- that we've had against us. All I can really
18 speak to, because I don't have direct contact or
19 experience with those legal considerations, I'm not a
20 lawyer, I don't work in the law department. What I
21 can tell you is what my view is based on my
22 experience in the industry and based on my review of
23 the documents available to me, which reflects a
24 massive effort. It doesn't reflect that any effort
25 has been stopped or squelched. What I see is an

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 effort that's been ongoing for quite some time.

2 Q. Well sir, you do advise the legal department at

3 Brown & Williamson, don't you?

4 A. Not on legal matters. I -- I provide input on

5 technical matters.

6 Q. In litigation-related activities; right?

7 A. In things just like what we're doing right now.

8 Q. And sir, it's your testimony -- I just want to

9 make sure I'm correct -- that this long and extensive

10 effort which you refer to in your first opinion on

11 page 2 of your expert report has been continuously

12 ongoing at Brown & Williamson and BATCo; is that

13 right?

14 A. Yes, it has.

15 Q. Are you familiar with documents which suggest

16 that this work has been shelved or, I'm sorry, was

17 shelved?

18 A. Internal documents or press --

19 MR. McGAAN: Objection --

20 A. -- type of statements?

21 Q. Internal documents, sir.

22 MR. McGAAN: Objection.

23 A. No.

24 Q. So if those documents exist, you're unaware of

25 them; right?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 MR. McGAAN: Objection. No facts --

2 A. I'm aware of documents that reflect
3 organizational changes and reflect changes in
4 emphasis for various technical matters. I don't know
5 if you -- that's what you mean by "shelved."

6 MR. McGAAN: You don't have to speculate.
7 She doesn't want to hear speculation.

8 MS. WIVELL: Well I object to you
9 interrupting the witness in the middle of his answer,
10 counsel. I think that's completely inappropriate.

11 MR. McGAAN: I don't.

12 Q. Were you sir, through? Were you through?

13 A. Yes.

14 Q. I'm not surprised.

15 Sir, you would agree that nicotine is a poison.

16 A. What do you mean by "poison"?

17 Q. Well what do you mean by "poison"? It's a word
18 that toxicologists use all the time, isn't it?

19 MR. McGAAN: Object, argumentative.

20 A. There's not a single meaning. It depends upon
21 what sort of test one is using to measure it, it
22 depends upon what sort of criteria are used to make
23 that assessment or make that ranking. It could have
24 various meanings. You could be talking about acute
25 toxicity, you could be talking about chronic

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 toxicity, you could be talking about a particular
2 biological endpoint. So when you say "poison," I
3 can't just say that statement without connecting it
4 to some specific endpoint or particular condition.

5 Q. Are you aware of Brown & Williamson documents
6 that say nicotine is a poison?

7 A. I may have read that statement in a document. I
8 can't put my fingers on that document, but it sounds
9 familiar.

10 Q. Well sir, going back to your opinion about this
11 long and extensive effort that you have referred to
12 in your first opinion on page 2, where did you get
13 the documents that you reviewed to come to that
14 conclusion?

15 A. From various places. I was first made aware of
16 the research effort when I first joined the company,
17 in going through orientation met various people who
18 were familiar with this research, including my
19 counterparts in BATCo, and in those instances I was
20 made -- given access to various documents that
21 pertained to the research program. Occasionally I
22 would come across these documents through my perusal
23 of the library, or people would bring certain reports
24 to my attention. I reviewed a number of these
25 documents when I reviewed the documents related to my

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 review of documents that were cited in the FDA's
2 proposed rulemaking, a large collection of documents
3 there.

4 There were -- There was a large collection of
5 documents made I believe in -- in request to a
6 production request associated with the Waxman hearing
7 so I'm not sure if it was the Waxman committee or the
8 FDA or some other -- someone else making a request,
9 but at that time things were collected and I -- I
10 went through a lot of these documents and read them.

11 I've been given some documents by my lawyers
12 that said these documents are relevant to a
13 particular issue. So various -- various sources over
14 -- over the time frame of about five years.

15 Q. The first thing you mentioned was research that
16 was ongoing that you learned about at the time of
17 your orientation. What research is that, sir?

18 A. Well this -- this research associated with
19 measuring modifications in cigarettes and what the
20 impacts might be on various biological tests, some
21 research associated with testing of ingredients that
22 I talked about earlier.

23 Q. Are there any specific projects?

24 A. A couple of them. One of them we talked about
25 already, RIO. Another one was JANUS. JANUS was a

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 fairly large one among them. I can't recall any
2 specific other project names.

3 Q. What projects were ongoing at the time you
4 joined Brown & Williamson in 1991?

5 A. Just -- Projects that were just finishing up
6 were projects called AIRBUS and GREENDOT, and I
7 believe then they eventually evolved into WARSAW and
8 NATO and then there's, oh, I forgot another one, NOVA
9 I think was another project name which -- which began
10 sometime after that. At this point we've got
11 projects that we refer to as DAY and BALTEC that are
12 current projects we have.

13 Q. And what are projects DAY and BALTEC involved
14 in?

15 A. They're also involved in modifying tobacco
16 and/or cigarettes in a way that would be responsive
17 to various health-related matters. DAY is a way to
18 process tobacco in a way to remove precursors that
19 may give rise to substances that might be considered
20 potentially harmful and in a way that might modify
21 the tobacco in a way that has either reduced
22 biological activity or reduced concentration of
23 certain constituents in the smoke.

24 Q. Just so we're clear, these projects are ongoing
25 today?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Yes.

2 Q. You are continuing to try and create a safer
3 cigarette; right?

4 A. Well I don't know if I can characterize it as a
5 safer cigarette. My characterization would be to
6 modify the cigarette in a way that would have reduced
7 biological activity and/or smoke constituents in
8 hopes that this would be regarded by the scientific
9 community as being a beneficial effect. Hopefully
10 they would regard it as being safer, but at this
11 point I don't know if it would be regarded as safer
12 or not because we haven't got a clear -- a really
13 clear set of assessment criteria. We have some sense
14 of what the assessment criteria are, they've been
15 elaborated by the surgeon general and they're quite
16 rigorous, but yes, we are continuing on today.

17 Q. What is project BALTEC?

18 A. BALTEC is a project where -- it's -- it's a
19 similar type of project but employing a different
20 strategy.

21 Q. And what is the strategy employed there?

22 A. The primary strategy there is to develop
23 essentially inert or synthetic tobacco materials or
24 sheet materials that could be added to a tobacco
25 blend to dilute -- essentially dilute the amount of

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 smoke formed, in hopes of reducing the total
2 concentration of constituents and biological activity
3 thereof.

4 Q. Sir, do those expenses -- project -- for project
5 DAY and BALTEC fall under your responsibility?

6 A. Some parts of it do.

7 Q. All right.

8 A. The "expenses"? I don't -- Are you talking
9 about the costs of it or the expenses or some other
10 aspect of it?

11 Q. The expenses, yes, sir.

12 A. They did not until recently.

13 Q. They do now.

14 A. Some aspects of it do. Not the total project,
15 but only some aspects of it.

16 Q. What aspects fall under your area of
17 responsibility?

18 A. Primarily the biological testing, any biological
19 testing that may be done.

20 Q. Are these budgeted to resource and development
21 expenses?

22 A. Research and development, yes.

23 Q. Yes.

24 A. Parts of it, not all of it.

25 Q. All right. Let me rephrase the question since I

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 misspoke.

2 These biological tests are budgeted to research
3 and development?

4 A. Yes.

5 Q. What biological tests are you currently
6 utilizing in project DAY?

7 A. In DAY?

8 Q. Yes.

9 A. Primarily the Ames test, some other in vitro
10 gene tox test and some smoke chemistry assessments.

11 Q. What in vitro gene toxicity tests are you
12 utilizing?

13 A. I believe chromosomal aberrations tests have
14 been conducted on it.

15 Q. And what smoke chemistry assessments are you
16 utilizing?

17 A. I couldn't rattle off all of them. We're
18 looking at about 30 or 40 different constituents in
19 smoke. We call it the Hoffman analyte list, which
20 refers to Dietric Hoffman who's a researcher who has
21 identified a number of constituents in smoke that he
22 feels are relevant to the smoking-and-health issue.
23 They're also the same types of things that you'll see
24 listed in surgeon general's reports.

25 Q. What projects or, I'm sorry -- Strike that.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 What kind of biological assays are being used in
2 project BALTEC?

3 A. Essentially the same tests.

4 Q. Now sir, are there carcinogenic compounds in
5 cigarette smoke?

6 A. Well when you say "carcinogenic" I would ask you
7 to be precise in defining what you mean. If --

8 Q. Why is that important to you, sir?

9 A. Well it's important because some people use the
10 word "carcinogen" loosely, and usually when they use
11 it they mean substances which have been identified or
12 have been shown to produce a -- have carcinogenic
13 activity in an animal test, and that's different than
14 proven to cause cancer in humans.

15 Now if you -- if you mean are there substances
16 which have been shown to produce cancer or have
17 carcinogenic activity in an animal test, yes.

18 Q. All right.

19 THE REPORTER: We have to go off the record
20 and change tape.

21 (Recess taken from 4:23 to 4:36 p.m.)

22 MR. McGAAN: There is an understanding that
23 we'd like to put on the record at this time between
24 Brown & Williamson and the Barnes plaintiffs, this
25 case has been cross-noticed in the Barnes case, and

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Ms. Wivell's examination yesterday and today takes
2 place as if it took place in the Barnes case;
3 however, the Barnes plaintiffs have not taken the
4 opportunity to examine while we're in Minneapolis
5 today, but we've agreed instead to produce Dr.
6 Appleton at a mutually convenient time in early
7 October for a day to complete their aspect of the
8 examination. We'll object to replotting any of the
9 ground covered so thoroughly by Ms. Wivell here, but
10 my understanding is they don't intend to do that. So
11 that's where we stand with regard to the
12 cross-noticing.

13 MR. WATTS: Thank you, counsel.

14 MR. McGAAN: Sure.

15 BY MS. WIVELL:

16 Q. Sir, before we went off the record you and I
17 were chatting about substances in cigarette smoke
18 which are carcinogenic in animal studies; right?

19 A. Yes, and I was making -- I think I was making
20 the distinction that "carcinogenic" can't be used
21 without qualification as to what it means. And what
22 I was indicating was that typically when it's used it
23 means has been reported to have carcinogenic activity
24 as measured in an animal toxicological test.

25 Q. All right. Well let's focus on animal

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 toxicological tests for a moment. How many
2 substances in cigarette smoke have been shown to be
3 carcinogenic to animals?

4 A. I don't know the exact number. I've read in
5 numerous places it's anywhere from 20 to 40.

6 Q. Are any of those substances also known to be
7 carcinogenic in man or woman?

8 A. "Known" by who?

9 Q. Well, toxicological tests.

10 A. There are no toxicological tests in man or
11 woman.

12 Q. All right. Well sir, you would agree that there
13 are substances which are known to be animal
14 carcinogens which have been shown to be carcinogenic
15 in man; right?

16 A. I wouldn't say "shown," I would say "judged" to
17 be or "rated" to be by various people or
18 organization.

19 Q. All right. And what are some of the
20 organizations which have judged certain animal
21 carcinogens to also be human carcinogens?

22 A. Oh, IARC, I-A-R-C, the National Toxicology
23 Program, and I believe OSHA maintains a list of
24 carcinogens that they regard as human carcinogens.

25 Q. Of the 20 to 40 known animal carcinogens which

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 occur in cigarette smoke, are any of them on the IARC
2 list of human carcinogens?

3 A. I -- As I -- I don't recall at this time. I
4 would need to ba -- basically I'd need to have the
5 IARC list in front of me to be able to answer your
6 question.

7 Q. Would your answer be the same if I ask you about
8 the National Toxicology Program list?

9 A. Yes.

10 Q. Would it also be the same if I ask you about the
11 OSHA list?

12 A. Yes.

13 Q. So as you sit here today you are unaware whether
14 any of the 20 to 40 substances which occur in
15 cigarette smoke which are known to be animal
16 carcinogens are also thought to be human carcinogens
17 by any of these three organizations.

18 A. I simply don't remember.

19 Q. Now sir, do you have any opinions on the subject
20 of addiction that -- and nicotine which you intend to
21 discuss when you come to testify on behalf of Brown &
22 Williamson?

23 A. It depends upon what somebody asks me.

24 Q. Well sir, I don't want to be cute and I don't
25 want to have to go through what we've done before.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Is there anything in your expert report that
2 addresses the issue of whether nicotine is addictive?

3 A. I don't recall anything in my expert report
4 about addiction.

5 Q. All right. Well sir, do you intend to offer
6 expert opinions about addiction?

7 A. I can't predict what I may talk about, and also
8 let will me -- let me just say my sense is the word
9 "expert opinion" really is a legal term and has a
10 legal connotation or legal significance, and I can't
11 comment on that. All I can say is I'm going to talk
12 about whatever anyone asks me to talk about, whether
13 it be you or my own lawyers, and I don't know what
14 you all are going to ask me to talk about.

15 Q. Well sir, --

16 MS. WIVELL: Well I would like the record
17 to reflect the fact that I'm trying to figure out
18 whether I need to examine this witness on the subject
19 of addiction, and let me just state for the record
20 that if the defendants intend to ask Mr. Appleton any
21 facts or any opinions regarding the subject of
22 addiction I would expect that we would receive a
23 supplemental expert report and then have the
24 opportunity to examine him.

25 Q. Now sir --

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 MR. McGAAN: Well wait, I've got to respond
2 to that, counsel. I'm not going to -- I've said
3 before what our position is on this. We're not going
4 to give you any report about facts, there isn't any
5 requirement to do it. You haven't asked the witness
6 any questions about addiction.

7 MS. WIVELL: Well I haven't asked him any
8 questions about addiction because he wasn't
9 designated as an expert and I'm here to take his
10 expert deposition.

11 BY MS. WIVELL:

12 Q. Sir, have you come to any conclusions about
13 whether nicotine is addictive?

14 A. Yes, I have.

15 Q. All right. What are those conclusions?

16 A. Well, I think the -- if someone is trying to
17 assess whether or not nicotine is addictive it -- it
18 depends entirely on what assessment criteria they
19 were using, what definition they're using. Now if
20 one -- certainly it's possible to construct a
21 definition that's so broad it could include nicotine,
22 and if one does that one would conclude nicotine is
23 addictive. Other definitions may be more narrow.
24 The fact of the matter is is the definition of
25 addiction has changed quite a bit over time and has

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 evolved over time.

2 If one uses a -- a pharmacologically based
3 definition which includes criteria such as producing
4 intoxication, producing tolerance, producing physical
5 withdrawal symptoms, then -- then it's -- I don't
6 think it falls within that definition. I certainly
7 don't think that nicotine is addictive in the sense
8 that heroin and cocaine are addictive. I don't think
9 it's comparable to heroin or cocaine, and I believe
10 people can quit smoking if they want to.

11 Q. Well, sir, you would agree that nicotine affects
12 the function of the body, the human body; right?

13 A. It can.

14 Q. And in fact Brown & Williamson and BATCo have
15 researched that shows it does.

16 A. Yes.

17 Q. You've reviewed that research, haven't you, sir?

18 A. Some of it.

19 Q. All right. And sir, you have reviewed that
20 research as part of the FDA rulemaking activity;
21 right?

22 A. Some of it, yes.

23 Q. Sir, you would agree that nicotine is a drug,
24 wouldn't you?

25 A. Depends upon your definition of a drug. If you

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 mean can produce a physiological effect, yes, it
2 can. If you mean a drug in the sense that the FDA
3 defines a drug, which is an intention to affect a
4 structure or function of the body or to treat,
5 mitigate or cure disease, no, I wouldn't agree it's a
6 drug in that sense.

7 Q. Well sir, you understand that the FDA defines a
8 drug as one of two different things; right?

9 A. I'm not sure if I know what you mean.

10 Q. Well sir, you understand that the Food, Drug,
11 and Cosmetic Act defines a drug as either an article
12 intended for use in the diagnosis, cure, mitigation,
13 treatment or prevention of disease in man or other
14 animals, --

15 A. Yes.

16 Q. -- or an article other than food intended to
17 affect the structure or any function of the body of
18 man or other animals; right?

19 MR. McGAAN: Let me object. I don't think
20 you intend to do this, but it reads as if you're
21 tripping him up on whether FDA, an agency of the
22 government, or a congressional statute has had a
23 definition, and he's obviously not competent to
24 testify about that.

25 But if you have an understanding of the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 question, you can answer.

2 A. Yes, I have an understanding that those are
3 among the definitions or those are the definitions of
4 a drug according to FDA.

5 Q. You understand that because regulatory affairs
6 is one of your areas of expertise; right?

7 A. Among the reasons, yes.

8 Q. And sir, you participated in preparation of
9 Brown & Williamson's response to the FDA's proposed
10 rulemaking concerning drugs -- concerning treating
11 cigarettes as drugs; right?

12 A. Yes.

13 Q. All right. Do you intend to offer any testimony
14 in trial of this matter about that proposed
15 rulemaking activity?

16 A. Depends upon what -- what I'm asked.

17 Q. Well sir, I'm asking you as you sit here has
18 anyone discussed with you whether or not they want
19 you to talk about that proposed rulemaking activity
20 as part of your testimony in this case?

21 MR. McGAAN: Object, and I'm going to
22 instruct the witness not to answer the question if it
23 calls for disclosure of communications with counsel,
24 which it probably only can call for.

25 I don't think you can answer the question, Dr.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Appleton.

2 A. Okay. Well if it reflects privileged
3 communications, then I can't answer.

4 Q. Well I would just like to know whether you have
5 had communications with counsel on the subject of
6 including this in your testimony. I'm not asking
7 what the results were, just this general topic.

8 MR. McGAAN: And I'm instructing him not to
9 answer that question.

10 MS. WIVELL: Well sir, I believe that that
11 is completely improper if Brown & Williamson's
12 counsel has back-doored this man by claiming, cutely,
13 that he is going to give factual testimony about this
14 subject, and I believe that's inappropriate. It
15 should have been listed in his expert disclosure, and
16 I think that what you have done with regard to the
17 subject of nicotine and ammonia and the subject of
18 addiction and the treatment of nicotine as a drug,
19 cigarettes as a drug is completely inappropriate and
20 we will object to any testimony by this witness on
21 either of those subjects or in those areas unless we
22 get an expert disclosure from him, counsel.

23 MR. McGAAN: You're wrong, but I'm not
24 going to add to what I said earlier.

25 MS. WIVELL: All right.

 STIREWALT & ASSOCIATES
 P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 BY MS. WIVELL:

2 Q. Well sir, let me ask you this: When I was
3 talking about the Food, Drug and Cosmetic Act
4 definition of a drug, you have been aware for -- Well
5 how long were you aware that that was a two-prong
6 definition?

7 A. I don't know when I first became aware it was a
8 two-prong definition. I can tell you a time when I
9 know I was aware. I don't know if it was the first
10 time I was aware.

11 Q. All right. When was the time when you know you
12 were aware?

13 A. When I reviewed the FDA's proposed rulemaking
14 notice in 1995.

15 Q. That was before your deposition in Broin, wasn't
16 it?

17 A. Yes.

18 Q. It was before your deposition in Texas, wasn't
19 it?

20 A. Yes.

21 Q. And sir, when you were -- when you testified in
22 Broin and in the Texas case you took an oath to tell
23 the truth, the whole truth, didn't you?

24 A. Yes.

25 MR. McGAAN: Object, argumentative.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. And sir, in those two case -- in those two
2 depositions when you were asked what the FDA's
3 definition of a drug was you neglected to tell the
4 attorney who was asking you the question about the
5 second prong definition, didn't you?

6 MR. McGAAN: Object, argumentative, and
7 don't answer that question unless you have a chance
8 to read your prior testimony. This is improper
9 impeachment.

10 Q. Do you recall, sir?

11 A. I recall, yes.

12 Q. And you did not --

13 A. I --

14 MR. McGAAN: Wait, wait, wait. Were you
15 done?

16 A. I'm not finished with my answer. I think you
17 mischaracterized the situation. I forgot. I forgot
18 that there were two prongs to that definition.

19 MR. McGAAN: Well why don't you take a
20 minute, Dr. Appleton, and look at your prior
21 testimony before debating about what it said or what
22 questions were asked of you.

23 Q. Just so we're clear here, you are the regulatory
24 affairs director of Brown & Williamson; right?

25 MR. McGAAN: Asked and answered.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Yes.

2 Q. And you have been the person who was involved,
3 along with the lawyers, in preparing Brown &
4 Williamson's response to the FDA rulemaking activity
5 regarding whether cigarettes should be treated as
6 drugs; right?

7 MR. McGAAN: Mischaracterizes the
8 testimony.

9 A. I'm sorry, could you repeat that second?

10 Q. And you are the person who was involved, along
11 with the lawyers, in preparing Brown & Williamson's
12 response to the FDA rulemaking activity regarding
13 whether cigarettes should be treated as drugs;
14 right?

15 MR. McGAAN: Mischaracterizes the
16 testimony.

17 A. I was involved, yes.

18 Q. All right. And you, sir, are aware that the FDA
19 basically asserts its jurisdiction on the second
20 prong of the definition of drug. In other words, an
21 article other than food intended to affect the
22 structure or any function of the body of man or other
23 animals; right?

24 MR. McGAAN: Object to the form.

25 Answer if you know.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. I did not know that that is the basis of the
2 assertion of their jurisdiction.

3 Q. Well sir, you --

4 A. That's a legal matter which I'm not familiar
5 with.

6 Q. You have read the Federal Register of --
7 discussion of the FDA's assertion of jurisdiction,
8 haven't you?

9 A. Yes, I've read it. It's a very long document
10 and it was a couple years ago that I read it. Also,
11 I didn't focus in on the legal matters, I focused in
12 on the product-related matters.

13 Q. And it's your testimony that when you testified
14 in response to questions from plaintiffs counsel in
15 the Broin case and in the Texas AG's case that you
16 simply forgot the second prong of the FDA's
17 definition of a drug?

18 MR. McGAAN: Object, that's argumentative
19 and improper without letting the witness review the
20 prior testimony.

21 A. Can I review my prior testimony?

22 Q. Well sir, answer my question first, please.

23 MR. McGAAN: He already answered it once
24 before, counsel, but you can answer it again. This
25 is an improper line of questioning.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. I simply forgot.

2 Q. Well sir, in your deposition taken in Broin you
3 were asked, "Is nicotine a drug"? And you
4 responded: It depends on what you mean by drug. If
5 you mean as defined by the Food and Drug
6 Administration, it's something that is intended to
7 mitigate or ameliorate or cure or treat disease, no.

8 Is that right, sir?

9 MR. McGAAN: Is this where you've bracketed
10 it? Is that --

11 MS. WIVELL: (Nodding.)

12 THE WITNESS: I provided a definition.

13 MR. McGAAN: Well the question is whether
14 she read your testimony correctly.

15 A. Okay. Is that the question?

16 Q. Did I read your testimony correctly, sir?

17 A. Yes, you did.

18 Q. Thank you. You did not define --

19 You did not tell plaintiffs counsel there that a
20 drug is also defined as something intended to affect
21 the structure or any function of the body of man or
22 other animals, did you?

23 MR. McGAAN: Object, that question wasn't
24 asked. Go ahead.

25 A. No, I did not define that, but I did say there

1 could be many definitions of a drug. I didn't say
2 this is the definition. He provided a vague word, I
3 provided a definition and said if this is what you
4 mean by this, then I gave the answer and I also
5 acknowledged there could be other definitions.

6 Q. Well sir, you said -- you gave him the
7 definition, quote, supposedly as defined by the Food
8 and Drug Administration; right?

9 MR. McGAAN: Object, mischaracterizes the
10 testimony, which demonstrates the impeachment was
11 improper to begin with.

12 A. I gave a definition which was what I recalled, a
13 definition that the Food and Drug Administration
14 has. They may have other definitions as well.

15 Q. All right, sir. You would agree that nicotine
16 is a dependence-producing substance, wouldn't you?

17 A. I don't know what you mean by "dependence
18 producing." It depends upon how you define that.

19 Q. Do you know what I refer to when I refer to
20 DSM-IV?

21 A. I'm familiar with DSM-IV but I'm not familiar
22 with the exact criteria in it.

23 Q. Well would you agree that DSM-IV talks about
24 dependence-producing substances?

25 A. I have recollection of that but it's been awhile

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 since I reviewed that so I'm not immediately familiar
2 with it. If you'd show it to me then I'll refresh my
3 memory.

4 Q. Well sir, let me ask you this. I designated the
5 testimony of one of -- of one of the cigarette
6 companies' experts in this litigation as part of my
7 predesignation for this deposition. Did you read it?

8 A. Which expert?

9 MR. McGAAN: Are you looking for a document
10 or just the name, Marty, because I can --

11 MS. WIVELL: The name.

12 MR. McGAAN: Peter Rowell.

13 Q. Peter Rowell. Did you read any of his
14 testimony, sir?

15 A. No.

16 Q. Are you aware of his opinions concerning whether
17 nicotine is a dependence-producing substance?

18 A. No.

19 Q. Did anyone share with you what his opinions were
20 concerning whether nicotine was a
21 dependence-producing substance?

22 A. No.

23 Q. Did anyone share with you Mr. Rowell -- or Dr.
24 Rowell's opinions concerning whether cigarette
25 smoking causes disease?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. No.

2 Q. So you're just unaware of those opinions as you
3 sit here today.

4 A. That's correct.

5 Q. Now sir, have you reviewed documents in
6 preparation for testimony concerning whether
7 cigarette smoking is addictive?

8 MR. McGAAN: Object. In preparation for
9 this testimony?

10 MS. WIVELL: Yes, sir.

11 MR. McGAAN: Okay.

12 A. No. I have reviewed documents about that, but
13 not specifically in preparation for this proceeding.

14 Q. You review --

15 Would you be the person at Brown & Williamson
16 most knowledgeable about Brown & Williamson's response
17 to the FDA rulemaking action concerning whether
18 nicotine is a drug?

19 MR. McGAAN: Object, vague and overbroad.

20 A. Yeah, you just asked me several questions at
21 once, if you could --

22 Q. All right. Let me start again.

23 A. If you could break them down into individual
24 questions?

25 Q. Brown & Williamson filed this response to the

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 FDA's rulemaking action; right?

2 A. Yes.

3 Q. And were you the person at Brown & Williamson
4 most responsible for putting that response together?

5 MR. McGAAN: Object, vague and overboard.

6 A. Let me characterize what my role was. I served
7 in a coordinating role to obtain technical responses
8 from various people who had responsibility in various
9 areas that were relevant to issues that were raised
10 in the FDA response. Part of that included me
11 reading documents, it included me talking to people,
12 obtaining their views and opinions and thoughts on
13 this, collecting and assembling that, in some cases
14 drafting materials, discussing those issues with
15 attorneys, attorneys also talked to people in those
16 areas as well. But ultimately I was the -- I was the
17 point of contact as far as coordinating those
18 activities goes. I don't know if that makes me the
19 most knowledgeable person or most responsible person
20 or what. I certainly served in a coordinating role,
21 but -- but in many cases dealt with issues that are
22 not within my area of responsibility or direct
23 expertise.
24 Q. Now sir, you would agree the FDA believes
25 nicotine is addictive.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 A. Well that's what they've said, yes.

2 Q. And you would agree that the surgeon general's
3 committee believes nicotine is addictive.

4 A. Well which surgeon general's committee?

5 Q. Well let's talk about the most recent surgeon
6 general's reports or the more recent surgeon
7 general's reports. The surgeon general has concluded
8 that nicotine is addictive; right?

9 A. Well the surgeon general looked at the issue
10 twice. In 1964 it concluded it was not addictive,
11 but in 1988 concluded that it was, employing a
12 different definition and criteria for assessing
13 addiction.

14 Q. All right. Now does Brown & Williamson believe
15 smoking is addictive?

16 A. I think I just gave my response to your question
17 earlier.

18 Q. Well, let me ask again.

19 Does Brown & Williamson believe cigarette
20 smoking is addictive?

21 MR. McGAAN: You have to answer it again.

22 A. Okay. Brown & Williamson does not think
23 cigarette smoking is any way comparable to addiction
24 to heroin, cocaine, alcoholism. We also believe that
25 people can quit smoking if they wish to.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 In fact one of the documents you showed me, I
2 think the statement by Joseph Califano, acknowledged
3 that some 30 million people are now former smokers,
4 so they have quit. We recognize that -- that people
5 smoke and some people have difficulty giving up
6 smoking. We also think people can quit if they wish
7 too, though.

8 Q. How many people who have quit smoking have gone
9 back to it, sir?

10 A. I have no idea.

11 Q. Do you --

12 Has Brown & Williamson collected any --

13 A. May I finish my -- I didn't finish my answer.

14 Q. Oh, I'm sorry. I thought you were done.

15 A. No, I wasn't.

16 We also acknowledge or we believe that there is
17 no standard definition or unifiedly --
18 uniformly-agreed-to definition. Various definitions
19 have been advanced, and it's certainly possible to
20 construct a definition so broad that it would include
21 nicotine as being addictive. On the other hand,
22 other definitions may not include nicotine as being
23 addictive.

24 Q. All right. Well sir, you would agree that --
25 Strike that.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Would it be reasonable for smokers to believe
2 cigarette smoking is not addictive?

3 A. Is "not addictive"?

4 Q. Yes.

5 A. I don't know what would be reasonable or not.

6 That depends upon the smoker and how they're viewing
7 the issue I suppose. I don't know what you mean by
8 "reasonable."

9 Q. Well, sir, if Brown & Williamson takes the
10 position that cigarette smoking is not addictive
11 and --

12 A. I don't believe that that characterizes the
13 statement --

14 MR. McGAAN: She -- Let her finish the
15 question.

16 A. I'm sorry. I don't want to interrupt you.

17 MS. WIVELL: Can we get out Exhibit 324.
18 That's the request for admissions.

19 MR. McGAAN: Umm-hmm.

20 (Discussion off the stenographic record.)

21 MR. McGAAN: 326, is that what you want?

22 Q. Sir, we've gotten out Exhibit 326, the Brown &
23 Williamson response to plaintiffs' request for
24 production of -- or, strike that.

25 We have got out Plaintiffs' Exhibit 326, Brown &

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Williamson's response to plaintiffs' first request
2 for admissions; right?

3 A. Yes.

4 Q. And in this request for admissions plaintiffs
5 ask Brown & Williamson to admit that cigarettes or
6 nicotine are addictive; right?

7 A. Well, can I see it?

8 Q. (Handing.)

9 A. All right. What's your question?

10 Q. In Exhibit 326 plaintiffs ask Brown & Williamson
11 to admit that cigarettes or nicotine are addictive;
12 right?

13 A. It does ask that, yes.

14 Q. And what is Brown & Williamson's response?

15 A. Let me read the response, please, into the
16 record.

17 It says, "Brown & Williamson objects to Request
18 for Admission No. 7 on the grounds that the term and
19 concept of 'addiction' is used by different people to
20 refer to different things and the request, therefore,
21 is vague and ambiguous. Brown & Williamson denies
22 that nicotine or cigarettes are addictive as that
23 word would likely apply to substances such as cocaine
24 and heroin. Brown & Williamson, therefore, denies
25 Request No. 7."

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Now, sir --

2 A. That's it.

3 Q. -- if someone heard Brown & Williamson deny that
4 cigarettes or nicotine were addictive, would it be
5 appropriate for them to believe what Brown &
6 Williamson's saying?

7 MR. McGAAN: Object, calls for speculation,
8 mischaracterizes the response.

9 A. Depends upon the context of the denial. If it's
10 in a request for admissions like this, I don't really
11 know what "deny" means. Deny may carry a purely
12 legal significance and may not -- I don't know what
13 it means. On the other hand, smokers have received
14 quite a bit of information about the addiction
15 propensity or dependence propensity of cigarettes, we
16 talked about the surgeon general's report that was
17 published in 1988. There's been an incredible amount
18 of media discussion of this issue and other
19 discussion of this issue. My understanding is that
20 cigarette smokers almost universally believe that
21 cigarettes are addictive, but I'm not sure if they
22 even understand or know themselves in what sense they
23 mean that, if they mean it in a technical way or in a
24 colloquial use of the term.

25 Q. Well has Brown & Williamson ever taken out an ad

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 that said, smokers, cigarettes that you're smoking
2 are addictive?

3 A. Well I think before taking such an action, I
4 mean, one thing we would do is assess what -- what
5 would be the purpose or what would be the benefit or
6 what would be the need to do that. If it's to
7 provide a warning to people that cigarette smoking
8 may be addictive, I believe that people have already
9 formed a view on that based on any number of sources
10 of information available out there about that issue.

11 Q. Well sir, wouldn't you agree that if Brown &
12 Williamson took out such an ad or made a public
13 statement saying that cigarette smoking was addictive
14 it would carry more weight because it came from the
15 cigarette industry?

16 (Laughter.)

17 A. No, I don't believe that -- that they would
18 think that a statement from Brown & Williamson would
19 be more credible than a statement from the surgeon
20 general.

21 Q. Well sir, let me show you Plaintiffs' Exhibit
22 902. This is a document concerning an early report
23 to the executive committee made by -- of Brown &
24 Williamson made by R. B. Griffith, and for the record
25 Exhibit 902 is Bates numbered B 12910586 or

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 BW-W2-03077.

2 And would you take a moment and look over the
3 first page of this document.

4 A. This is really hard to read.

5 Q. I think if you read the first paragraph and the
6 second paragraph it should be all right.

7 A. Okay.

8 Q. All right. This document at the bottom is dated
9 July 1st, 1965; right?

10 A. Correct.

11 Q. And according to the first two paragraphs, Dr.
12 Griffith or -- Strike that.

13 According to the first two paragraphs Mr.
14 Griffith had just returned from a trip to England;
15 right?

16 A. Yes.

17 Q. And he had information he considered to be
18 important enough for a presentation to the full
19 exclusive committee of Brown & Williamson; right?

20 A. Yes.

21 MR. McGAAN: Object, that's not really what
22 the document says.

23 Q. Now the information he had concerned the results
24 of Tobacco Research Council Institute that had been
25 done at Harrogate Laboratory which he learned were to

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 be published the next year; right?

2 A. Yes.

3 Q. And he says that these results will confirm the
4 work of others in showing that smoke is basically
5 carcinogenic when measured by mouse skin-painting
6 techniques; right?

7 A. Yes.

8 Q. And he was especially concerned because he says,
9 quote, the results may have more impact since they
10 will come from a tobacco industry supported facility;
11 right?

12 MR. McGAAN: Object -- Object. That's not
13 what the document says.

14 A. I'm sorry, could you repeat your question?

15 Q. And this memo then goes on to say, "...but the
16 results may have more impact since they will come
17 from a tobacco industry supported facility"; right?

18 A. That's what the document says, yes.

19 Q. Now sir, in light of the view that Mr. Griffith
20 believed way back when that it was important --
21 Strike that.

22 In light of the view that Mr. Griffith thought
23 that the results might have more impact since they
24 were coming from a tobacco industry supported
25 facility, let me ask you again.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Don't you think that if Brown & Williamson came
2 out and said to the public, "the cigarettes we make
3 are, we believe, addictive," that people might pay
4 more attention to that than they might from
5 information from another source?

6 MR. McGAAN: Object, compound, vague and at
7 least part of that question was asked and answered
8 before.

9 A. I have no way of knowing how people may receive,
10 or what they may take or respond to more or take as
11 more credible, or what they may believe or not
12 believe more or less, but let me comment on this
13 document.

14 This was not referring to addiction, it was
15 referring to results of a skin-painting test. It was
16 -- It doesn't describe who the audience was that
17 would have more impact. You're talking specifically
18 about the public, and here Mr. Griffith doesn't talk
19 about who it may have impact on. He may be talking
20 about the scientists at Harrogate, he may be talking
21 about scientists at TIRC, he may be talking about
22 scientists within the scientific community, he may be
23 talking about people within the legal community, I
24 don't know, or he may be talking about the public at
25 large, he doesn't specify, at least not from what I

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 gleaned from it.

2 Thirdly, I think that the extent to which a
3 statement from anyone would have an impact is
4 dependent largely upon the historical context and the
5 time frame. This document was prepared in 1965. If
6 we came out with a statement in 1997 it may be
7 received differently or have different degrees of
8 impact than it would -- than it would if such a
9 statement were made 35 years ago. But in the end of
10 the day, though, I can't -- I don't know if -- if the
11 public would rely more or less on a statement from us
12 than from the health authorities. My suspicion is
13 they would rely less on a statement from us than the
14 health authorities.

15 Q. Well sir, as an industry that has more than 40
16 years ago recognized its special responsibility to
17 smokers concerning their health, don't you think that
18 Brown & Williamson has a responsibility to put out
19 information that it knows concerning its cigarettes?

20 MR. McGAAN: Object, this was gone over
21 yesterday and there's -- it assumes facts that aren't
22 in evidence, it's argumentative.

23 A. I agree. We talked yesterday about
24 responsibilities, you said facts it knows. I don't
25 believe I said we know or think nicotine is

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 addictive. I provided an answer to that which --
2 which is not character -- which I don't think you
3 properly characterized. And again we talked about
4 what I thought were appropriate responses.

5 I think, as I said before, before we would act
6 on anything we would assess the need to, or the
7 benefit of, or what would be the beneficial result of
8 doing that, and if in our view there would be no
9 beneficial result to the public insofar as warning
10 them of potentially addictive effects is concerned,
11 then there'd be no need to do that. That's been
12 done. Warnings have been issued, statements have
13 been made, the public has its views about things. I
14 don't know if that would really achieve any
15 beneficial result or not.

16 Q. Well sir, does Brown & Williamson have a
17 responsibility to warn about risks and hazards
18 associated with the use of its products?

19 MR. McGAAN: Object, answered yesterday.

20 A. I agree. We answered this yesterday.

21 Q. Well I didn't ask the question, so let me ask it
22 again.

23 Does Brown & Williamson recognize that it has a
24 responsibility to warn the public of the risks and
25 hazards associated with its cigarettes?

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 MR. McGAAN: Object. This was gone over
2 yesterday.

3 A. The public has been warned by the health
4 authorities and by the surgeon general and the
5 scientific community. That is out there. The public
6 is aware of those issues.

7 Q. And so is it your position sitting here today as
8 an expert witness for Brown & Williamson that if
9 somebody else warns the public, that that absolves
10 Brown & Williamson of its responsibility to warn the
11 people who are using its products about the risks and
12 hazards associated with those products?

13 MR. McGAAN: Object. It's compound, it's
14 argumentative, it calls for a legal conclusion, it
15 assumes he's an expert in something he hasn't been
16 offered as an expert in.

17 A. I agree. When you say it absolves of
18 responsibility, I don't know if it absolves them or
19 not. I don't know what "absolves" means. I think
20 you are asking me for a legal conclusion.

21 Q. Well sir, let me start again.

22 Does Brown & Williamson acknowledge that it has
23 a responsibility to warn the public of the risks and
24 hazards associated with its products?

25 MR. McGAAN: Object. This was gone over

1 yesterday.

2 A. I agree. I gave a detailed answer to this
3 yesterday.

4 Q. Well considering, sir, I didn't ask the question
5 yesterday, I would like to know how you feel you
6 could answer it.

7 MR. McGAAN: Okay. Let's take a break,
8 counsel, and get the transcript out.

9 MS. WIVELL: No, we're not going to take a
10 break because we're running up against 5:30.

11 MR. McGAAN: Well let the record reflect
12 that you don't want to see the lengthy examination.

13 MS. WIVELL: Well you can look while we go
14 on, or Jack can look while we go on, that's fine.

15 (Discussion off the stenographic record.)

16 THE REPORTER: Off the record, please.

17 (Recess taken from 5:14 to 5:17 p.m.)

18 BY MS. WIVELL:

19 Q. Sir, does Brown & Williamson have a
20 responsibility to warn the public of the risks and
21 hazards associated with its cigarettes?

22 MR. McGAAN: Asked and answered.

23 A. I think you're asking me for a legal conclusion,
24 and it's not a simple answer that -- it's not a
25 simple issue that can be answered with a yes or no,

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 so let me try to give a common-sense answer, and I do
2 believe you're asking me something that's outside my
3 expertise.

4 If one asks the same question of does an auto
5 manufacturer have a responsibility to warn the
6 customers of its products that if they use their
7 products they may get in an accident and be harmed or
8 get killed, I don't see auto manufacturers providing
9 a warning to that to the public. If someone, on the
10 other hand, is, let's say, a fast food restaurant, I
11 don't see them providing warnings to the public that
12 use of their product may result in atherosclerosis or
13 may contribute to coronary heart disease, and I could
14 use that same example for a number of other products
15 which the public has general awareness of or
16 universal awareness of their potential hazards.

17 I think our responsibility is comparable to
18 other companies and other industries and other
19 suppliers and manufacturers of those products. I
20 indicated what I thought our responsibilities were
21 yesterday, and I'll go through them again.

22 I think we have a responsibility to understand
23 the allegations made about our products, I think we
24 have the responsibility to understand the science
25 about our products, to provide the best quality

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 products we can, to provide good customer service and
2 not make any misrepresentations about any matter
3 concerning our products, intentional
4 misrepresentations, including health effects.

5 Q. Well sir, you would agree that if the car
6 manufacturer, to use your example, knew that it had a
7 gas tank which exploded upon impact and it failed to
8 either correct that or to warn the people who bought
9 its product, you would agree that it would be
10 reasonably liable for any damages that occurred as a
11 result of that gas tank exploding and killing people;
12 right?

13 MR. McGAAN: Object, calls for a legal
14 conclusion.

15 A. You're asking me for a legal conclusion that I
16 don't think I'm qualified to answer. I don't think
17 that example is comparable because that would be
18 something that would not be generally known to the
19 public. The public does generally know that they --
20 if they use an automobile, under normal conditions of
21 use they can be harmed or killed and the -- the auto
22 -- auto industry also knows that, yet I don't see
23 cars coming with a warning label on them saying,
24 warning, use of this product may result in injury or
25 death.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Well sir --

2 A. And again there's many other examples like that
3 and I think that our responsibilities are comparable
4 in that respect.

5 Q. But if Brown & Williamson had special knowledge,
6 like the Pinto manufacturer did, for example, about
7 hazards unique to its product and it failed to warn
8 about those hazards, you would agree that it would be
9 reasonable for Brown & Williamson to be responsible
10 for any damages that might occur as a result of use
11 of their product; right?

12 MR. McGAAN: Object -- Object, compound,
13 assumes facts not in evidence and calls for a legal
14 conclusion.

15 A. I'm not familiar with the Pinto example. Which
16 one do you mean, you mean the gas tank, is that the
17 one you're referring to?

18 Q. Yes, sir.

19 A. Okay. Again I don't think that's a comparable
20 example because --

21 MR. McGAAN: I have the -- I'm sorry, I
22 have the same objections if the question's reput. Go
23 ahead.

24 A. Okay. I don't believe that's comparable because
25 that's a special characteristic of that car, it's not

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 a general characteristic that cars in general could
2 be hazardous. But there are -- actually there are
3 situations -- Let's stay with the auto manufacturer.
4 I believe the auto manufacturers probably have
5 statistics that show their smaller, lightweight cars
6 probably do carry a higher probability of injury or
7 death than their larger, full-size cars. I'm sure
8 they have statistics about that and have information
9 about that yet I don't see or believe that they are
10 required to carry a warning to tell the public about
11 that.

12 I don't think our products have any unique
13 characteristics that differentiate them from other
14 cigarette products on the market, and I believe our
15 responsibilities are comparable to other industries,
16 and those are just some examples. And if you want,
17 we can go through several more.

18 Q. All right. Well sir, going back to the issue of
19 whether cigarette smoking is addictive, you would
20 agree that Brown & Williamson's position on whether
21 cigarettes are addictive is out of the mainstream of
22 scientific thought.

23 A. I wouldn't characterize it that way.

24 Q. Well -- So you're telling us that there is
25 reasonable scientific basis to believe that smoking

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 is not addictive?

2 A. Well when you use the word "addictive" I think
3 you need to define what you mean by that. I think
4 that's the key issue.

5 Q. Well let me ask you this. Are there scientists
6 who reasonably believe that smoking is not addictive?

7 A. I have seen opinions of that, yes.

8 Q. All right. But you would agree that the vast
9 majority of the scientific community believes that
10 cigarette smoking is addictive.

11 A. I have -- I haven't looked at any surveys of
12 what the scientific community believes and whether or
13 not it represents a majority or not.

14 Q. Well sir, if Brown & Williamson believed
15 cigarette smoking was addictive, what would it do to
16 make cigarette smoking not addictive?

17 MR. McGAAN: Object, it's a hypothetical
18 and it's impossible to comprehend.

19 A. I agree. It's such a hypothetical question. It
20 depends on the reasons why it's addictive, and how
21 addictive, and what all that means.

22 Q. Well if Brown & Williamson believed cigarette
23 smoking was addictive, would it do anything?

24 MR. McGAAN: Objection. Same objection.

25 A. I don't know. It depends upon the

1 circumstances, it depends upon the conditions.

2 Q. Well is it easy for an addicted person to give
3 up what they're addicted to?

4 MR. McGAAN: Object, vague.

5 A. I think it's -- it depends on a
6 substance-by-substance basis. For example, there are
7 withdrawal -- so-called withdrawal symptoms in this
8 issue that you just raised associated with various
9 materials that are published in various sources. If
10 you look at so-called withdrawal symptoms for
11 alcoholism, they're extremely serious and can result
12 in death. Withdrawal from alcohol addiction can
13 result in a number of very serious psychological and
14 physiological disturbances, and even death, and the
15 same is true for heroin or barbiturate addiction.
16 The surgeon general reports so-called nicotine
17 withdrawal symptoms, and the symptoms reported in the
18 surgeon general's report are not serious
19 physiological or psychological effects, they're
20 relatively mild compared to alcoholism or heroin
21 addiction or cocaine addiction.

22 Q. And what do you base that on, sir?

23 A. My own subjective view of -- of looking at the
24 so-called withdrawal symptoms that the surgeon
25 general describes for nicotine addiction and looking

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 at those same types of symptoms described for alcohol
2 addiction or heroin addiction.

3 Q. In other words, you're basing that on your
4 reading; right?

5 A. Yes.

6 Q. You're not a regular smoker, are you, sir?

7 A. No.

8 Q. You've never been a regular smoker, have you?

9 A. No, I have. I have and I quit.

10 Q. But you were a casual smoker when you were a
11 smoker; right?

12 A. I have been every kind of smoker. I've been a
13 casual -- I was a casual smoker for many years, I was
14 a regular smoker for some period of time, and then I
15 quit.

16 Q. Sir, you agree that most smokers want to quit
17 smoking.

18 MR. McGAAN: Object, calls for
19 speculation.

20 A. I don't know if most smokers want to quit or
21 not.

22 Q. Well sir, in your review of the B.A.T. and B&W
23 documents you have seen reference to the fact that
24 most smokers want to quit; haven't you?

25 A. I've read references to those statements in

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 surgeon general's reports and other -- other reports,
2 probably the FDA notice of proposed rulemaking.

3 Q. Now you understand that smokers continue to use
4 cigarettes even after they have been diagnosed with
5 cancer?

6 A. I've read that in various reports, yes.

7 Q. And you understand that smokers continue to
8 smoke even after they've had various organs removed?

9 A. I've also read that in various reports.

10 Q. And you agree that there are smokers who
11 continue to smoke even after they have other very
12 serious reasons to quit; right?

13 A. I've read that in reports, yes.

14 Q. Now sir, if Brown & Williamson believed that
15 cigarette smoking was addictive, would it tell the
16 public that even if the other members of the
17 cigarette industry didn't believe it was addictive?

18 MR. McGAAN: Object, speculative.

19 A. I don't know.

20 Q. Well sir, are cigarettes safe?

21 A. I don't know if anyone can say they're safe or
22 not.

23 Q. Well can you say they're safe?

24 A. Depends upon what you mean by "safe" and what --
25 what objectives and assessment criteria you're using.

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Q. Well sir, in 19 -- Let's go back to 1954.

2 What evidence did Brown & Williamson have in
3 1954 that cigarette smoking was safe?

4 A. I'm not aware of a conclusion that Brown &
5 Williamson made in 1954 that cigarettes are safe.

6 Q. I understand, sir, but that's not my question.

7 What evidence did Brown & Williamson have in
8 1954 that cigarette smoking is safe -- was safe?

9 A. I don't know. I don't know what you're
10 referring to.

11 Q. Well you have made a vast study of Brown &
12 Williamson documents, according to your expert
13 report. Can you direct me to one document that tells
14 us the information that Brown & Williamson had in
15 1954 that showed, that proved to a scientific
16 certainty that cigarette smoking was safe?

17 A. No.

18 MR. McGAAN: Object, assumes facts not in
19 evidence and is misleading regarding review he's
20 testified about.

21 Q. Sir --

22 A. I'm not aware of what you just said that -- of
23 evidence that proves that cigarettes are safe.

24 Q. Are you aware today, can you point me to
25 evidence that shows that cigarettes that Brown &

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 Williamson sells are safe?

2 A. No.

3 MS. WIVELL: I don't have anything further
4 at this time.

5 MR. McGAAN: I don't have questions at this
6 time. We'll reserve the right to read and sign.

7 THE REPORTER: Thank you.

8 Off the record, please.

9 (Deposition concluded at approximately
10 5:28 p.m.)

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 C E R T I F I C A T E

2 I, Debby J. Campeau, hereby certify that I
3 am qualified as a verbatim shorthand reporter; that I
4 took in stenographic shorthand the testimony of SCOTT
5 APPLETON at the time and place aforesaid; and that
6 the foregoing transcript, Volume II, consisting of
7 pages 296 - 591, is a true and correct, full and
8 complete transcription of said shorthand notes, to
9 the best of my ability.

10 Dated at Lino Lakes, Minnesota, this 24th
11 day of September, 1997.

12

13

14

15 DEBBY J. CAMPEAU, RPR

16 Notary Public

17

18

19

20

21

22

23

24

25

STIREWALT & ASSOCIATES
P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953

1 S I G N A T U R E P A G E

2 I, SCOTT APPLETON, the deponent, hereby
3 certify that I have read the foregoing transcript,
4 Volume II, consisting of pages 296 - 591, and that
5 said transcript is a true and correct, full and
6 complete transcription of my deposition, except per
7 the attached corrections, if any.

8

9 (Please check one.)

10 ___ Yes, changes were made per the attached

11 ___ (#) Signature Page Addendums.

12

13 ___ I have made no changes.

14

15

16

17

18

19

20

SCOTT APPLETON

21

Deponent

22

Sworn and subscribed to before me this day

23

of , 199__.

24

Notary Public

25

My commission expires:

(DJC)

STIREWALT & ASSOCIATES

P.O. BOX 18188, MINNEAPOLIS, MN 55418 1-800-553-1953